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ABSTRACT

This document records hearings before the U.S. Senate Committee on Agriculture, Nutrition, and Forestry and its sub-committee on Nutrition. The hearings, dated March 15 and April 9, 1984, were conducted in order to evaluate and reauthorize the special supplemental food program for Women, Infants and Children (WIC), due to expire in 1984. Testimony came from staff from the General Accounting Office, state and local family health and nutiriton officals, U. S. Senators, local WIC program directors, professors of nutrition and maternal and child health, the president of the National Association of WIC Directors, and the director of the Center on Budget and Policy Priorities. The evaluation focused on, among other matters, the effectiveness of WIC in increasing birth weight, lowering infant mortality, decreasing the percentage of infants with anemia, improving the nutritional state of women with poor weight gain during pregnancy, and the health program's capacity to function preventively. The document closes with a cost-benefit analysis of the WIC program, prepared by the Congressional Research Service of the Library of Congress. (RDN)

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EVALUATION AND REAUTHORIZATION OF THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN [WIC]

HEARINGS

BEFORE THE

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY UNITED STATES SENATE

AND THE

SUBCOMMITTEE ON NUTRITION

OF THE

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

MARCH 15 AND APRIL 9, 1984

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EVALUATION AND REAUTHORIZATION OF THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN [WIC]

THURSDAY, MARCH 15, 1984

U.S. SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Washington, DC.

The committee met, pursuant to notice, at 10:06 a.m., in room SR-328-A, Russell Senate Office Building, Hon. Jesse Helms (chairman of the committee) presiding.

Present: Senators Helms and Cochran.

STATEMENT OF HON. JESSE HELMS, A U.S. SENATOR FROM NORTH CAROLINA

The CHAIRMAN. Because I know that the distinguished witnesses on the two panels have other things to do than to sit around, waiting for us, I am going to proceed. I am advised that other Senators may be here in due course.

The purpose of this meeting of the committee today is to examine as carefully and objectively as possible the Special Supplemental Food Program for Women, Infants, and Children, which is known, of course, as WIC.

As I have indicated previously, one of the highest priorities of this committee's extensive agenda for 1984 will be the consideration of reauthorizing the WIC Program and other child nutrition programs which will expire this year.

In the brief history of the WIC Program since 1972, the program has been the subject of a great many research projects and studies in an attempt to measure its effectiveness in improving maternal and child health in a number of ways, the intended result, of course, of program participation.

The full committee and the Subcommittee on Nutrition have conducted hearings in recent years on the program's effectiveness, and increasingly, there have been instances of conflicting testimony about what is actually and precisely known about the program's effectiveness from evaluations which have been conducted for that purpose.

For example, findings from various WIC evaluations have been cited to support contentions that the program is effective in improving a variety of maternal and child health conditions among participants. However, others have been critical of the methodologies of the studies, claiming they are unsound and the findings insufficient for national representations. For these reasons, I request-

ed that the General Accounting Office undertake a careful examination of existing research to determine the soundness of these evaluations and the credibility of the claims which have been based on them.

Now, each of the issues which I asked the GAO to examine was derived from assertions made in congressional hearings by those claiming a major positive impact from WIC Program participation. The GAO found after examining the studies that—and I am quoting from the GAO report itself—"The information is insufficient for making any general or conclusive judgments about whether the WIC Program is effective or ineffective overall." The GAO did conclude that "In a limited way," the information indicates the likelihood that WIC has modestly positive effects in some areas, primarily infant birth weights.

Frankly, I would be hopeful that after 10 years, there would be more supportive and conclusive evidence to demonstrate whether or not this program is worth more than $1 billion of the taxpayers' money each year.

Now, of course, we must all acknowledge that it is not always possible to be absolutely certain of the impact of any Federal program, or at least, most of them. But we certainly need to know as much as possible. Congress needs the best possible information about the potential cost benefit of this and other programs, particularly at a time when deficits are in the stratosphere and causing hardship to everyone.

Frankly, another concern which I have—and this one deals with the actual program operation—is whether the program is being sufficiently targeted to those women, infants, and children from the poorest families and those in greatest nutritional need. It appears that some States, in an effort to increase the number of people in the program, have not targeted limited Federal dollars to those in greatest need. For instance, the latest statistics from the Department of Agriculture indicate that no State has even as many as 50 percent of its caseload in the highest-priority category—that is to say, pregnant women, lactating women, and infants at nutritional risk.

My own State of North Carolina, for example, had only 27 percent of its caseload directed to those presumed to be in that category of greatest nutritional need.

Rather, it seems that many States have high participation levels among those at lesser risk, while perhaps some at high risk go unserved. I hope, of course, that we can have some focus on how we might correct that current deficiency in the States' management of the WIC Program.

With that preface, we will now proceed to call the first panel. But before I do that, Senator Huddleston is the distinguished ranking minority member of the committee, and he is unable to be here this morning. He has submitted to me his statement which, without objection, will be included in the record.[1]

[The following statistical information was received by the committee:]

[1] See p. 83 for the prepared statement of Senator Huddleston.

CASELOAD DISTRIBUTION BY PRIORITY LEVEL BASED ON ESTIMATED DATA RECEIVED FROM 43 WIC STATE AGENCIES

State	Total participation	Percent of caseload by priority levels [1]						
		Priority I	Priority II	Subtotal I & II	Priority III	Priority IV	Priority V	Priority VI
New Mexico	16,126	66	9	75	25	0	0	0
Oregon	28,971	46	10	56	37	2	4	1
Washington	34,431	41	13	54	30	5	9	2
Oklahoma	37,173	25	28	53	31	2	12	2
Arizona	25,868	32.7	20.3	53	27.4	7.5	5.6	6.5
California	205,408	32	20	52	23	6	9	10
Delaware	6,527	22	29	51	49	0	0	0
Alaska	3,464	36	13	49	42	1	4	4
Illinois	120,010	34	15	49	35	4	9	3
Florida	86,289	32	17	49	38	2	4	7
South Carolina	67,655	32.2	16	48.2	33.5	5.5	7.8	5
Puerto Rico	85,569	43	2	45	53	0	1	1
Utah	20,878	29.2	13.9	43.1	37.5	2.4	12.2	4.8
Guam	1,486	32	11	43	36	6	10	5
Kansas	21,376	35	8	43	35	9	12	1
Nebraska	15,693	30.6	11.9	42.5	35.8	2.3	10.5	7.8
Missouri	61,922	26	16	42	31	9	11	7
Arkansas	25,184	32	9	41	31	10	18	0
Hawaii	5,142	32	9	41	32	11	3	3
Wisconsin	62,366	30	10	40	45	3	9	3
Texas	171,914	27.5	11.8	39.3	31.9	6.8	13.8	8.2
Tennessee	57,500	23	15	38	37	13	6	6
Colorado	28,411	28	10	38	34	7	18	3
North Carolina	96,012	27	10	37	44	3	8	8
Pennsylvania	136,447	29.2	7.6	36.8	53.8	2.1	4.6	2.7
South Dakota	9,516	26	10	36	31	6	18	9
Wyoming	6,324	27.6	8.3	35.9	42.5	3.5	12.8	5.3
Indiana	49,384	25	10	35	27	8	24	6
Kentucky	59,870	19.5	15.2	34.7	29.6	9.3	20.3	6.1
Virgin Islands	6,207	12.9	21.5	34.4	48.5	2	3.8	8.3
Ohio	161,034	25	9	34	45	6	10	5
Minnesota	53,915	24	9	33	44	5	15	3
Maine	15,779	22	11	33	35	8	21	3
Virginia	57,525	21.1	11.6	32.7	24.5	8.1	20.3	14.4
Idaho	11,657	21	11	32	19	16	32	1
District of Columbia	11,689	20.4	11.4	31.8	25	8.4	25.1	9.7
Connecticut	46,433	20	11	31	38	6	22	3
West Virginia	25,389	21	10	31	51	3	13	2
New Hampshire	12,477	22.3	8.5	30.8	37.1	6.5	22.9	2.7
Nevada	10,792	22	8	30	33	7	24	6
North Dakota	11,651	15.2	10.6	25.8	28.8	10.2	35.2	.....
Iowa	32,201	15	10	25	25	10	40	0
Vermont	17,051	11.7	13	24.7	12.7	9.4	48.3	4.9

[1] Priority categories have been established by USDA as follows:
Priority I—Pregnant women, breastfeeding women, and infants determined to be at nutritional risk by a blood test or some other documented medical condition.
Priority II—Infants up to 5 months, whose mothers participated in the WIC Program during pregnancy or whose mothers did not participate during pregnancy, but were at nutritional risk.
Priority III—Children at nutritional risk as demonstrated by a blood test or other documented medical condition.
Priority IV—Pregnant or breastfeeding women and infants at nutritional risk because of an inadequate dietary pattern.
Priority V—Children with an inadequate dietary pattern.
Priority VI—Nonbreastfeeding postpartum women at nutritional risk.

Source: U.S. Department of Agriculture, updated April 3, 1984.

The CHAIRMAN. The first evaluation panel will consist of three exceedingly distinguished citizens: Eleanor Chelimsky, Director of the Program Evaluation and Methodology Division of the GAO; Dr. David Rush, professor of pediatrics and of obstetrics and gynecology, Albert Einstein College of Medicine in New York City, and

head of the national WIC evaluation; and Dr. David Paige, professor of maternal and child health, Johns Hopkins University, in Baltimore.

If those three distinguished citizens will come forward now and occupy these three chairs, we will begin.

STATEMENT OF ELEANOR CHELIMSKY, DIRECTOR, PROGRAM EVALUATION AND METHODOLOGY DIVISION, GENERAL ACCOUNTING OFFICE

Ms. CHELIMSKY. We are very glad to be here, Mr. Chairman.

Let me begin by introducing the people that I have brought with me here, if I can—Christine Fossett, to my left, who is a Project Manager at GAO in the division that I direct; Dr. Richard Barnes, who is a group director there, as well. Both of them have worked in the area of social program evaluation for many years, and are experts on the subject.

As I said, we are very pleased to be here today to testify before this committee on the existing evaluations of the WIC Program, and of course, my own particular subject is the review that you have that the GAO did on the technical and methodological soundness of those evaluations.

In order to respond to the committee's time constraints, instead of going through that fairly lengthy prepared statement that you have, I am just going to summarize and give you the bare-bones essentials that we have found.

The CHAIRMAN. With the understanding that the full statement will be printed in the record.[1]

Ms. CHELIMSKY. Thank you so much.

Last June, when you asked us to look at existing evaluations of the WIC Program, you requested that we focus on questions relating to nine important aspects of WIC effectiveness. Eight of those nine questions asked whether there was conclusive evidence that the WIC Program had been able to achieve certain specific results, and those results were, first, an increase in mean birth weights; second, a decrease in the percentage of low birth weight infants; third, favorable effects on birth weights, especially for high-risk groups and for those participating in the program longer than 6 months; fourth, improvement in maternal nutrition; fifth, a decrease in the incidence of anemia in infants and children; sixth, a decrease in the incidence of fetal and neonatal mortality; seventh, favorable effects on maternal nutrition, fetal and neonatal mortality, and anemia in infants and children—again, especially for high-risk groups and by length of program participation—and eighth, a decrease in the incidence of mental retardation in infants and children.

Your ninth question asked us to review the different individual effects of the three separate WIC components—that is, of course, nutrition, nutrition education, and health care.

In speaking to the highlights of our findings, then, Mr. Chairman, what I would like to do is make eight points that fall into three categories: the general quantity and quality of the existing

[1] See p. 85 for the prepared statement of Ms. Chelimsky.

body of evaluative evidence on WIC's effectiveness; our answers to your nine specific questions as we have already provided them to the committee, just to quickly summarize them, and last, some observations that flow from our findings in both areas and that I think are important to mention here.

With regard to the general quantity and quality of the evidence, my first point is that if supporting evidence is to be called conclusive, then evaluative information needs to be adequate in quantity and high in quality. What we found is that the existing evidence from the 61 evaluations that we reviewed is insufficient for making any general or conclusive judgments about whether or not WIC is effective overall.

The second point is that the quality of the evidence varies tremendously over the nine areas of the committee's interest. For example, the best evidence available which is substantial in quantity, but moderate in quality, deals with WIC effects on infant birth weights. But there is a dearth of good information about various other aspects that the committee is interested in knowing about. I will speak more precisely to that in a moment.

My third point, although the methodological quality of the different evaluations as they focused on different program questions was often imperfect, taking the better studies together, the information they produce does indicate the likelihood that WIC may have positive effects in some areas. We are not yet there, but there is some good information in several areas; I will get to that in a minute.

Now let me turn to the answers we have provided to the committee more specifically on the nine questions and present the bare bones of our findings.

I'll begin with infant birth weights, the committee's questions 1 and 2. As I said earlier, this is where we found the best evidence.

We think six studies taken together have produced evidence sufficient to support the claim that WIC increases infant birth weights. According to our statistical analysis, the average increase in birth weight of infants born to WIC participants in these studies was between 30 and 50 grams. That represents a gain of about 1 to 2 percent of body weight.

But perhaps the most noteworthy finding from our synthesis of the six studies is that there also appears to be a decrease in the number of low birth weight infants; that is, infants who weigh 2,500 grams or less at birth. Now, that is important, of course, because 2,500 grams is the boundary below which you can expect health problems to occur.

The CHAIRMAN. Dear lady, how much is that in pounds?

Mr. BARNES. About 5½.

The CHAIRMAN. OK. I know everybody out there knew that except me, and I did not want them to know I did not know.

Ms. CHELIMSKY. Yes, well, the metric system is coming, Senator, so they tell me.

The point I was trying to make, though, was that that 2,500-gram cutoff is important, because it is the boundary below which you can expect to have health problems. In fact, the evaluative evidence suggests that the effect of participation in the WIC Program is a 16- to 20-percent decline in the low birth weight rate.

Next, let's look at high-risk groups, which was part of the committee's question 3. Here, we found such great variation across the evaluations that we could not synthesize the information quantitatively as we had been able to do for the infant birth weight information. However, these more limited data do nonetheless suggest that infants born to teenage mothers participating in WIC are less likely to be of low birth weight than infants born to similar, nonparticipating mothers. There is also some evidence that black women who participate in WIC give birth to infants with a higher mean birth weight and have a lower proportion of infants who weigh less than 2,500 grams at birth than comparable black women who do not participate.

With respect to length of participation in WIC, also part of question 3, there is some evidence of a rise in mean birth weight and a decline in the rate of low birth weight infants when program participation extends beyond 6 months. However, severe study design problems in this area, mostly problems of selection—for example, the question of what sort of person enters the program early and what sort of person enters late as opposed to what was the effect of the program—place these conclusions at a lower level of confidence than the overall mean and low birth weight conclusions.

In the area of improvement to maternal nutrition—that was the committee's question 4—the evidence supplied by six studies is only of moderate quality, so no firm conclusions can be drawn, of course. But there is some evidence suggesting that participation in WIC is associated with improvements in nutritional well-being, especially in the areas of diet, iron, and weight.

With regard to the assertion that WIC prevents anemia in infants and children—the committee's question 5—two studies of only moderate quality bring only limited evidence that WIC may be associated with improving the iron levels in their blood. This is also the case with regard to children who are classified as anemic when they enter the program. But the evidence here is not strong.

Now, turning to WIC effects on miscarriages and stillbirths or neonatal death, question 6, the evaluations under review presented very severe methodological problems relating to sampling design and consistency of measurement. The problems were so serious as to provide only dubious support to claims of WIC effectiveness in decreasing infant mortality.

With respect to the committee's seventh question on different effects by WIC on different groups, the information is too sparse, too insufficient in quality, and too inconsistent to allow informed judgments of how WIC's effects on infant mortality, maternal nutrition, and anemia might differ for participants with varying health and nutrition risks.

As for the committee's eighth question, virtually nothing is known about whether WIC does or does not have an effect on the incidence of mental retardation. No WIC evaluation has specifically addressed this issue. One study did focus on the cognitive development of infants and children in WIC, but limitations in its design and execution lower our confidence in its favorable conclusions.

Finally, we simply cannot comment on the effects of the three separate WIC components. That was the committee's question 9. Only one evaluation looked at this question at all, and none fo-

cused on the differential impacts of nutrition versus nutrition education versus health care, in terms of which one was more successful, which one was more important.

To sum up, then, Mr. Chairman, we can say that evidence of highly varying quantity and quality is available to support a range of inferences about the WIC Program, but few, if any, conclusions.

Now, what does that tell us about the power of the evaluations performed and about hopes for the future? Here I respond to your earlier point that we ought to have something better by now.

First, two kinds of problems, we think, were manifest in the evaluations we reviewed: avoidable ones and unavoidable ones. Many of the avoidable problems are being addressed in the two words large scale national evaluation of the WIC Program that is now underway, that the Food and Nutrition Service is sponsoring. I understand that the final report of that study is due in June, so we are anxiously awaiting that.

With respect to the unavoidable problems, I mentioned those in the full statement. At least one of these already shows signs of progress, and that is the very important problem of lack of consensus among nutrition and health care professionals about common, generally accepted standards and criteria by which to judge WIC effects. It appears that we are at last beginning to move toward some consensus in this area, and that will make a lot of things possible that were not possible in the past.

Finally, I would like to underscore that our findings do not mean that the WIC Program is ineffective. We simply do not know with certainty, based on existing evaluations, what the answers are at this time. Finding out the precise effects of a national-level social program is always a long process. We note the improvements now being made in the designs and methodologies of the various recent evaluation efforts, and we look forward to the forthcoming reports of these studies, as I have said. As a result, there seems every reason to believe that at some future point, the Congress will be able to get the kind of information it needs on WIC effectiveness. So we are optimistic about that.

That briefly summarizes our report, Mr. Chairman. I would be happy to answer any questions you have.

The CHAIRMAN. That was a very fine report.

Ms. CHELIMSKY. Thank you, sir.

The CHAIRMAN. We constantly run into a situation where there is a divided interest and divided loyalty when the responsibility of these programs is divided. I am not being all that derogatory of State management, because there are many areas where the State, or certainly the people on the ground in the States who are attempting to administer the programs, decide they are more interested in their being effective than maybe some of the people up the line. It probably would be better if we could tighten up the administration, so that the original intent of this and other programs could be fulfilled.

Now, we mentioned the statistics in my own State. Obviously, it is easier to put somebody on than not to put somebody on, you see, and this is what we have run into in so many things.

Ms. CHELIMSKY. It is a question of targeting.

The CHAIRMAN. Right. We have some mutual critics, by the way. Bob Greenstein, a very fine young man and former official in the Carter administration, suggests that you have slanted your report to fit my views.

Ms. CHELIMSKY. Yes, I saw that.

The CHAIRMAN. But I noticed that you did not editorialize; you gave statistics.

Ms. CHELIMSKY. Exactly.

The CHAIRMAN. And Bob may decide that figures don't lie, but liars figure, or something. In any case I do respect him, and this is not the only time I have had a disagreement with him.

I have a question. Some of the professional advocates of this program and others contend that even if individual studies are not sound in methodology, as you call it, that the frequency of positive findings make the cumulative impact positive. Is that a clear description?

Now, my recollection from basic statistics was that where you do not have enough evidence or enough statistics to make a judgment in some of the cases it does not matter how many studies you have.

Ms. CHELIMSKY. Well, I think that is right. What we did, in fact, was review 61 studies. But we were not able to use all the 61 studies to come up with our findings. Even in some of the studies that we did use—those that we felt were highly credible studies—they did not address all the issues. And regarding the issues that they did address, I would say that for the credible studies, it makes a lot of difference if they do—with different methodologies, different authors, different ways of conceiving of a subject—come up with similar findings. That reinforces my confidence that those studies are finding something which is reflected in reality. In fact, I think the fact that there are different methodologies would increase my sense that it is probably more likely to be true. But that is far from saying I can make a conclusive statement based on that; especially if the methodologies are poor, I would not consider them.

The CHAIRMAN. In any case, you have simply disclosed the statistical evidence.

Ms. CHELIMSKY. Yes.

The CHAIRMAN. But do not let the criticism bother you. Sam Ervin once described one of his critics in this way. He said, "He don't know nothing, and he's got that tangled up."

The New York Times had an editorial sometime back, following the publication of the GAO report, and they said, "Helms wants to slash the WIC Program." Well, there is no evidence for such a statement. I have not been for slashing any food program. But on the other hand, I do not think that any program in this Government, across the board—from defense to there—is above scrutiny. That is the way I feel about it, and that is what we are trying to do with respect to the WIC Program.

Well, I appreciate it, and if you will just sit right there for a little bit, we will hear these other gentlemen.

Dr. Rush?

Dr. RUSH. Thank you Senator Helms. I am pleased and flattered to be invited to testify before you today. I must apologize because my remarks are similar to what has already been said.

The CHAIRMAN. That is fine.

Ms. CHELIMSKY. That is the fate of the second witness.

STATEMENT OF DR. DAVID RUSH, PROFESSOR OF PEDIATRICS AND OF OBSTETRICS AND GYNECOLOGY, ALBERT EINSTEIN COLLEGE OF MEDICINE, NEW YORK, NY, AND HEAD OF NATIONAL WIC EVALUATION

Dr. RUSH. I am a pediatrician and epidemiologist and have long been concerned with the role that nutritional supplementation can play in relieving some of the illness and maldevelopment of children caused by poverty. I was asked by the Food and Nutrition Service to take responsibility for directing the national WIC evaluation in the early fall of 1981. I agreed, but only if we had the opportunity to rethink the entire evaluation with our collaborators, Research Triangle Institute in North Carolina, with no preconceptions, and we received this extraordinary and probably unique privilege.

I had hoped to present some of the preliminary results of the evaluation to you, but I am unable to do so until I receive Department of Agriculture clearance.[1]

In the course of doing this evaluation, I have become increasingly aware of some of its inherent and possibly insurmountable limitations, and have come to realize that some reasonable and legitimate goals of evaluation probably may no longer be achievable.

There are different ways of evaluating programs. Some, we know, make sense. Some appear to make sense, but on careful scrutiny, are not backed up by past experience. And finally, there are criteria for judging programs as there are for judging anything, which are irrelevant and inappropriate and against which the program should not be judged.

The three categories of criteria are, first, criteria for which there is reasonable evidence that the WIC Program ought to make a difference; second, criteria which may or may not apply—past experience does not tell us clearly whether these measures are responsive to improved nutrition or nutrition education, as are given in the WIC Program. It is unfair and inappropriate to judge the program a failure if such criteria are not met, given this ambiguity of past evidence. Finally, there are goals which are unlikely to be achieved by this or any other nutrition program—small, well-observed, and needless to say, expensive research or demonstration projects have not produced these outcomes, and it is hardly sensible to expect a massive service program such as WIC to achieve what has not been done under optimal conditions.

In my opinion—and this is obviously a personal opinion—appropriate goals for nutrition programs during pregnancy include improved diet and improved prenatal health care; small, but possibly important increases in birth weight, in the order of 20 to 50 grams, and the mother's increased understanding of techniques of infant feeding, particularly breast feeding. For the infant and child, diet should be improved, particularly increases in iron, vitamin C and vitamin A, all of which have been demonstrated to be low in the

[1] See p. 98 for the prepared statement of Dr. Rush.

diets of poor chilren. Children who are anemic or thin ought to become less anemic or thin, and obese children might lose weight.

On the other hand, there is great uncertainty as to whether a program in pregnancy such as WIC might reduce the mother's use of tobacco and alcohol, increase maternal weight gain, increase the duration of gestation, or reduce fetal or infant mortality. This uncertainty arises from past work external to the WIC Program.

For infants and children, it is not at all clear that nutrition programs can reduce nutritional risk factors associated with chronic cardiovascular disease of adulthood, improve subtle psychological functions such as increase attention or moderate over- or under-activity, improve health care, particularly preventive care, such as immunization or other well-child care, or improve medical followup after treatment for illness and generally reduce the burden of illness.

Now to the hard part. Some outcomes, in my judgment, are either unlikely to be responsive to a program such as WIC under almost any conditions or, if responsive, extremely difficult to measure. An example is anemia during pregnancy. Anemia is defined in the nonpregnant individual by low concentration of hemoglobin, or a low proportion of red blood cells in the blood. In pregnancy, this definition is nearly useless, since there is a normal expansion of the entire blood volume. Many women may appear to be anemic when their total blood volume is expanding faster than their red cell mass. This is not anemia, is not a nutritional problem, and is not a necessary signal for therapeutic intervention. Obviously, anemia in pregnancy can be studied, but the study of the necessary large numbers of women is technically difficult and very expensive. I do not believe that sensible answers are likely to be forthcoming that will allow us to judge whether the WIC Program has lowered the rates of true anemia among pregnant women.

Even more controversial is whether childhood WIC benefits should be expected to affect linear growth in infancy and childhood. A very important review entitled "Supplementary Feeding Programs for Young Children in Developing Countries" has recently been published. The authors meticulously reviewed feeding programs in populations at far greater risk than all but a few children in the United States, and one of the striking conclusions was that there has been very little effect of supplemental feeding programs in childhood on linear growth, except among extremely deprived children. In addition, for such deprived children, the nutrient most often limiting linear growth is calories. In this country, children in supplementary feedings programs do often have improved diets, but they do not usually increase caloric intake. Caloric deficiency is rare here, with certain notable exceptions, such as among adolescent women. It now appears to me that any expectation of observable change in linear growth from the WIC Program is unreasonable. Note that prenatal benefits could possibly be associated with greater childhood stature.

Also, it has become almost impossible to determine whether linear growth has been changed. Recipients of the program must be compared to other children who have not received the program. There are various ways of making such comparisons. For certain health conditions and treatments, comparisons are easy. If every-

body with a certain disease died in the past, and a new therapy leads to some survival, we do not need elegant controlled trials to demonstrate the efficacy of therapy. The situation relating WIC to the growth of children is exactly the opposite. A multiplicity of factors besides the WIC Program can contribute to child growth. Thus, it is essential to have in any such research a meticulously matched comparison or control group, possibly randomized to treatment or control status. To gather such a control group may be impossible at this time, given the wide diffusion of the WIC Program and the perceived ethical problems of withholding benefits from otherwise eligible children who might be denied food benefits as part of a research study.

Thus, not only is the program during childhood very unlikely to affect linear growth, but in addition, it is probably impossible now to study this issue in a way that will yield secure answers.

Thus, to demand of the WIC Program that it affect linear growth of children is to preordain its failure, in my opinion, since this outcome is both unlikely and probably unstudiable. I consider the expectation of improvement in such global and crude psychological measures as IQ equally unlikely, and to use IQ change as a measure of success again dictates that the program will be unfairly judged a failure.

While there has been one report suggesting quite marked improvement in IQ and school performance from prenatal WIC benefits, it stands in opposition to a large concurrent literature about the effects of maternal and child nutrition on cognition and behavior. Thus, the necessary first step in judging whether the program has been effective is to articulate a series of appropriate goals. In my opinion, this has not been done properly, and it ought to be done by a group with wide experience in both nutrition science and program administration.

Next, I thought it sensible to comment on past WIC evaluatory work, but not to dwell on this at length, since you have also received a comprehensive report from the General Accounting Office. While the GAO report is very fair-minded, both careful and complete, GAO has had to contend with unfamiliarity with this field, and their staff were unable comfortably to do a sophisticated analysis of the technical strengths and limitations of each of the various evaluatory efforts, nor place each one in the context of other relevant work that relates to, but was not done directly on, the WIC Program. I am less concerned than they about the representativeness of the recipients in any one study; if enough good studies are available, reasonable conclusions should still be possible.

My staff and I also recently have reviewed the 41 WIC studies which address health effects of the WIC Program. We tabulated the key results of each study and evaluated the strengths and weaknesses of each research design. We then summarized all studies relating to four issues: Birth weight, perinatal or infant mortality, change in hematological indices, and finally, changes in infant or child growth. Some relationship between WIC benefits and birth weight was reported in 22 studies, either as a difference in mean birth weight or as a proportion of children born under 2,500 grams, 5½ pounds, or both. For the better and more secure studies, there was reasonably strong evidence that the proportion of low birth

weight was lowered by 10 to 20 percent or so, and mean birth weight was raised by just about what might be expected, in the range of 20 to 50 grams. The best of these studies is the recent statewide evaluation in Missouri in 1980, by Stockbauer & Blount, who found a 16-gram increment associated with WIC for all births, which was probably an underestimate, but a 48-gram increment among blacks, who were presumably at higher risk. These averages include some women who had very short-term benefits, and the effects are probably greater with longer term duration of care. While birth weight is strongly correlated with infant survival, it is not equivalent. Seven studies related WIC benefits to perinatal or infant survival. I agree with GAO that these are simply too weak to test the question of whether survival was affected by WIC benefits. Possibly it was, but no conclusions can reasonably be drawn.

There were 14 studies of changes in hemoglobin, hematocrit, or other hematologic indices. However, of the 14, only 3 included controls, and only 1 of these was of infants, and none of children over a year of age. In the study of infants, there was no observed improvement with WIC Program benefits, but controls may have been receiving better health care, and therefore, better treatment for anemia.

There were two controlled studies among pregnant women. One concluded there was a positive effect, but there was internal evidence that controls were initially worse off than subjects. One uncontrolled but possibly valuable, study was the massive work done by CDC which linked cereal measures for several thousand of the children included in their nutrition surveillance register, and there did appear to be some improvement.

Thus, the available work on hematologic change following WIC benefits can hardly contribute to a decision on the effectiveness of the program, one way or the other.

Of the 12 studies relating child growth to WIC benefits, only 1 included controls who were followed comparably to WIC recipients, and in this study there were, not surprisingly, no differences. In the CDC study, in contrast to the results for hematologic change, there was very little in the way of growth difference after the first followup visit.

Thus, the WIC Program has probably been successful using the criterion of change in birth weight. The data for the other indices is not good enough to draw conclusions.

We have now finished preliminary analysis of two of the four substudies of the current national WIC evaluation. One is a study of over 2,000 preschool children. A preliminary report has been sent to the Food and Nutrition Service, and is now being revised, given their comments and those of our advisory panel.

The study of preschool children was included as one element in our longitudinal study in pregnancy, into which nearly 6,000 women in 59 areas nationwide were recruited during early pregnancy. We had intended that one-third of these women would be women who had not received WIC benefits, but this proved to be an illusory goal. It was impossible to recruit that many women who were otherwise eligible for WIC but not already enrolled in the program. Not only were numbers smaller than we had aimed for, in spite of intense recruiting efforts, but about one-quarter of the con-

trols were subsequently enrolled in the WIC Program by the time we reexamined them early in the third trimester.

The third substudy, under the direction of Dr. Richard Kulka of Research Triangle Institute, is an economic analysis of the effects of WIC benefits on family finances, especially on food expenditures.

Our final study is potentially of profound importance. For the past decade, we related WIC to pregnancy outcome in 15 States in which there were nearly 9 million births. The rationale for studying the entire decade in which the program has been in existence is twofold. First, over the course of the 10 years, we assumed that there may have been diffusion of program goals beyond the direct recipients of the program. Thus, any observed case/control differences in a current study would be an underestimate of true program effects.

Moreover, an increasing proportion of high-risk women have been enrolled in the WIC Program, making the existence of an appropriate comparison group less and less likely. This would also lead to case control differences in a current study being underestimates of program effect. Thus, we had strong reason, in order to fully understand its effectiveness, to look backward to the time when the program began. Our approach was to find how many women were served by the program for each county and for each year in 15 States which maintained birth and infant death records such that we could identify the county of residence of mother. We then estimated the number of likely WIC-eligible pregnancies for each county from the census and vital statistics.

This may sound a bit daunting, but the goal was simple: to relate the amount of WIC service rendered to pregnancy outcome, as seen in linked certificates of birth and death, using some fairly complex statistical procedures. The basic outcomes of the study are now known to us, will be in the hands of the funding agency at any moment, and could be available to you at their discretion.

Several things in this analysis have never been done before. The scope is vast, and therefore should be more representative than any past study. We are relating WIC to changes in prenatal health care indices such as the likelihood of the mothers registering for prenatal care in the first trimester and the adequacy of numbers of prenatal care visits. We are also able, because of the large size of the evaluation, to approach issues of child survival as well as birth weight.

There are further hypotheses which are testable with these data. For instance, do changes in health care mediate some of the changes in perinatal outcome? If they do not, it makes the nutritional component a more likely cause of such change, if it indeed exists. Further, are effects on mortality more likely around birth, or later in the first year of life? If nutritional effects are most significant, we would expect more change to be early in the child's life; if improved health care predominates, change later in childhood would be as or more likely, since postneonatal mortality is exquisitely responsive to health care inputs.

This evaluation has been an awesome responsibility, remains an exhausting amount of work, but has been an exciting challenge. I know we will have given our best effort to meeting that challenge.

I hope my description today is the prelude to a more detailed discussion soon.

Thank you very much for inviting me to your deliberations.

The CHAIRMAN. Dr. Rush, thank you very much. You obviously spent some time on this, and I followed your text as you delivered it.

You know, when you start measuring people, habits, results, everybody is different, circumstances are different, environment is different. I was interested in your comments about sharing and substitution. Is that going to have an impact on the program in terms of even knowing what the potential of the program is with the sharing and substitution?

Dr. RUSH. Well, I think it will have—those results are not yet available, but a preliminary report which will be available in a matter of weeks. Inevitably, there must be some sharing and some substitution. The question is the extent, and whether the sharing adds to the well-being of the total family unit. These judgments will be social and political rather than scientific, ones. I hope that we are able to generate information for you that is understandable and relevant to your legislative needs. It is premature to guess at results, but it is fair to say that they are likely to be important.

Judging sharing is extremely difficult technically. Judging substitution is not as difficult, and is done by economic analysis. We can tell, within the limits of error of measurement, whether family finances have been changed, and whether the WIC foods are substituting for other purchases. Unless we were to intensively observe families, and take complex diet histories from every member of the family, sharing cannot be directly measured, but only be indirectly inferred. We will be able to assess economic impact, reasonably well; how WIC food issued by the family unit will be much more difficult.

The CHAIRMAN. All right.

Dr. Paige, thank you for your patience, and we will be glad to hear from you.

Since we have no other Senators here, that leaves me free to operate the meeting as I wish. Could we have an understanding that if you would like to ask a question or clear up a point, we can be just sort of conversational about this when you conclude? I think sometimes, if you abandon formality, you can get to the heart of the matter a little bit more quickly.

Thank you, Doctor.

STATEMENT OF DR. DAVID PAIGE, PROFESSOR OF MATERNAL AND CHILD HEALTH, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD

Dr. PAIGE. Thank you very much, Mr. Chairman.

I, too, am honored to be invited to present my thoughts to you and am grateful for the opportunity. I, too, will attempt to truncate my informal comments, although everyone says that and invariably goes on to read their formal comments, but I will try to address just the relevant issues.[1]

[1] See p. 107 for the prepared statement of Dr. Paige.

I would like to speak to the public health importance of the WIC Program as we have assessed it and as I read the assessment of the scientific community.

A general effect of the program is an increase in birth weight and a decrease in percentage of low birth weight infants. The effect of the WIC is most clearly seen in those subcategories of the WIC population who are at greatest risk. This would include teenage population, black women, women with poor weight gain during pregnancy, low prepartum weights, and a history of poor pregnancy outcome.

The measurable effect of the WIC Program will not be reflected by every participant. Clearly, those at greatest risk will benefit most from the program. There is a threshold below which the nutritional health of the woman is a critical determinant of pregnancy outcome and at which time nutritional supplementation will influence outcome.

Program effects are not evenly distributed among all participants. All low-income women do not, by virtue of their economic class, share the same level of nutritional and other environmental or social risks, and therefore the outcome will be different.

Several studies which, in my opinion, are of value attempt to support the conclusions which I have just discussed—the Missouri study, which Dr. Rush noted; a study at the University of Pittsburgh concluded that the effect of the WIC Program on birth weight in over 2,000 women was not randomly distributed, but greatly dependent on maternal characteristics. Results indicated that women enrolled in the maternal and infant care projects after the introduction of WIC in 1974 demonstrated significant improvement in birth weight compared to women enrolled in this prenatal project prior to the introduction of WIC. There, too, was a significant decrease in the percentage of low birth weight newborns, also, after the introduction of the WIC Program. Further, these effects were greatest in women who were nonwhite, entered the pregnancy at a body weight less than 121 pounds, and greater than 30 years of age. While the expected decrease in the proportion of low birth weight infants was seen in both the over 1,000 WIC women and over 1,000 non-WIC women, significantly lower proportions of low birth weight infants were seen in those women entering the pregnancy at the lowest weights, 100 pounds or less, with a significant overall decrease in all weight categories, in terms of low birth weight, a decrease which was significant, from 12.8 to about 9.7 percent.

Another recent evaluation suggesting the positive effect on the WIC improving birth outcome is reported in the 1982 Massachusetts WIC followup study. That study attempted to circumvent a variety of criticism which was leveled at an earlier study, and the outcome of the two pregnancies in the same women in which successive birth outcomes were looked at did result in a finding of an improvement in the proportion of infants who were low birth weight and an increase in the mean birth weight of the offspring of such a pregnancy.

Now, in our own study of providing nutritional supplements to high-risk, low-income pregnant teenagers attending special schools in Baltimore City, a significant increase in birth weight was noted

of over 150 grams, and a reduction in the proportion of low birth weight infants was also reported. Further, those supplemented teenagers who were youngest and did not smoke showed the most significant increase in birth weight. While the study was not a WIC-evaluative study but, rather, a specific intervention study with high caloric supplement, results do reinforce the fact that improvement in pregnancy outcome may be measured in those individuals who are at greatest risk and who do receive a nutritional supplement.

Now, I believe that that GAO conclusions on the effect of the WIC on pregnancy as reported in the study under review this morning is one that I fully endorse; namely, that the evidence indicates that for some segments of the population, WIC can have a direct and positive effect on birth weight. The estimates that WIC decreases the proportion of low birth weights in infants born to women from 16 to 20 percent is particularly striking and important; and has a major public health implication.

Further, the report that WIC's effect on mean birth weight also appears to have a positive benefit effect of approximately 30 to 50 grams in terms of an increase in mean birth weight is consistent with my own independent assessment of the literature and the results of our research at Hopkins.

In addition, the importance of participating in the WIC Program for an increased length of time is consistent with the available scientific literature on the importance of weight gain during pregnancy, the deposit of energy stores during the early stages of pregnancy, and that these observations complement the significant increase in reported energy intake in WIC versus non-WIC women in the Endres and NDAA studies, as reported by GAO. In other words, there appears to be an interdependence, a relationship, which does exist in terms of mean caloric intake reported, the importance of increased energy intake during the early stages of pregnancy, its importance in terms of the velocity of fetal growth in the latter part of pregnancy, and an overall improvement in both the mean birth weight as well as a decrease in the proportion of low birth weights as an outcome of the intervention in terms of independent studies exclusive of WIC, as well as in the WIC studies which have been reported on and commented upon. So I do believe there is a substantive and very real effect in this regard, most clearly seen in those women who entered the pregnancy at a disproportionate weight, and those are the categories which I indicated.

With respect to infant nutrition, the effect of WIC on infants and children continues to be studied. A recent Boston study, by Dr. Heimendinger, of 906 WIC infants, approximately 1,000 non-WIC infants, from birth to 18 months, did report a greater than expected increase in the velocity of growth, particularly in those children 6 and 18 months of age, and particularly in those who were on the program for a period of greater than 4 months.

Our own evaluation at Hopkins—mine—did not demonstrate significant differences in anthropometric measures between WIC and non-WIC infants at followup visits of 6 and 11 months. Our study design called for the evaluation of all enrollees in the WIC Program, and it may have been more useful to study subgroups of high-risk infants—for example, low birth weight infants—in terms

of evidencing in a short period of time--6 months—the impact of a nutrition intervention for newborns who are entering the program at greatest risk.

Further, severe constraints exist in any field study of WIC at this time, due to a large number of WIC sites throughout each community and the resulting influence and spillover effect of the WIC Program, which influences on contiguous counties not operating the WIC Program; Dr. Rush referred to this a moment ago.

The usefulness of anthropometric measures as an outcome measure may be limited as well, in terms of looking at this particular dependent variable in a study of very young infants. The velocity of growth in the early part of the first year can be met by mouth food alone, and the evolution of a nutritional problem will take many, many months to begin to evolve, and is not a particularly useful measure of the program's effectiveness, and Dr. Rush also commented on this particular point. I might add parenthetically, without prior collaboration, in terms of each seeing the other's testimony.

A more critical evaluation may be carried out on subgroups of the WIC infant population at greatest risk, as I have already noted, and this would be most fruitful in looking at low birth weight infants. It may be, too, that infants entering the second year of life may be at a disproportionately greater risk due to more complex feeding patterns, sharing of food within the household, increased leakage of supplemental foods to other household members, return of the caretaker to workplace, and a loss of the infant's unique and somewhat privileged and protected position within the household of every young family, irrespective of social class.

It should be clear that the ecological effect of the WIC Program operating in a number of counties on the Maryland Eastern Shore, in terms of the frame of reference of our own study, may have influenced the content, character, and scope of the health and preventive services provided by all Eastern Shore health departments, despite the absence of a WIC Program.

The GAO report on the two outcome measures to determine the effectiveness of WIC in infants and children—namely, anemia and mental retardation—I would like to briefly comment upon.

While anemia may be a useful dependent variable to measure programmatic impact, I would parenthetically note that the use of mental retardation as an outcome measure may not be a useful and appropriate dependent variable outcome measure in this regard—to wit, the paucity of studies in the literature, and further, the fact that over 20, 25 years of aggressive scientific investigation has been exploring this particular issue and still the question remains mired in controversy, and this precedes by many, many years the introduction of the WIC Program. The scientific community has spent a great deal of time, effort and money attempting to develop associations in this regard, and this has been a very elusive and difficult problem to look at. But I do not think it is a fair outcome measure with respect to programmatic intervention in terms of a nutritional supplementation program.

Looking at the percentage of infants and children with anemia as reported by CDC and Dr. Edozien's study in North Carolina, a USDA-supported study, one notes a significant drop in the percent-

age of WIC infants and children with anemia. And despite the limitations of the study, as already appropriately commented upon, there is a decline in children in the CDC study in terms of number of children with anemia, from 14 percent to approximately 3 percent in the 6- to 23-month age range. This is the age range when iron deficiency anemia is a particular problem and it is worth noting the drop, despite some of the methodological limitations which exist in very large-scale field evaluations such as undertaken by CDC.

It is worth nothing that since the inception of WIC in 1973, iron deficiency anemia in young children in the United States which was considered the leading domestic nutritional problem at the time we considered the initial legislation and amendments to the Child Nutrition Act for the introduction of the WIC Program, the problem of iron deficiency anemia has declined substantially. The intent of the original legislation for WIC was to reduce this problem, and I believe the pediatric community has witnessed a substantial decline in the magnitude of this problem over the past decade, and I believe the WIC Program has made a contribution in this regard. Clearly, it is not the only facet, but it is an important contributor to the decline which has been observed.

I would like to also share with you very briefly the results of a comprehensive review and evaluation reported in the American Journal of Clinical Nutrition approximately 1 year ago by two investigators, Drs. Beaton and Ghassemi, who looked at the nutritional supplementation and intervention carried out internationally over an extended period of time, and a very careful and critical analysis of many, many supplemental intervention programs providing nutritional supplements to very high risk, low-income populations in Third World countries. They found that the close scrutiny of a large number of the studies in their review led to the conclusion that anthropometric improvements were surprisingly small—again, echoing the point that Dr. Rush made and the fact that the scientific community has had difficulty isolating growth, anthropometric, weight and length, as a very useful indicator of progress in this regard.

For some major ongoing programs, there was no increase demonstrable in anthropometric indices. Clearly, the programs were vastly different in design and quality of the data collected—not too dissimilar to the problems that we were discussing this morning. It was suggested that the energy and nutrient supplementation not accounted for in growth may be producing unmeasured responses in children in the form of physical activity, play and adaptation of basal metabolic rates. These changes may equal or exceed the value placed on growth as an outcome measure in terms of many of these studies.

As an objective of food distribution programs for preschool children, the improvement of nutritional health or the prevention of nutritional deterioration of targeted individuals within the community is an important consideration, particularly for those of us who are working in the public health area who find it so difficult to reinforce the consideration of preventive health and preventive medicine as an important element in the overall programmatic activities that we carry out on a Federal, State, and local level.

Additional benefits may be seen in the incentives to participate in health or other social programs, augmentation of other intervention programs, on occasion the use of new foods, the health and nutrition education, and perhaps at times, depending on the size of the program, redistribution of income and other considerations along these lines.

I would just briefly note some of the conclusions that I have reached independently, and these are as follows, with respect to the WIC Program. Birth weight, in my judgment, is increased; low birth weight is reduced—and I will not put in the caveats in each one of these, but there are constraints and points raised in terms of limitation of data are accurate, but I think an objective scientist or prudent individual reading the literature—clearly, me, in this regard—would reach these conclusions that the birth weight is increased, low birth weight is reduced. Subgroups within the WIC at greatest risk do benefit most. Women with low prepartum weights show the greatest improvement. Women with poor weight gain during pregnancy demonstrate improvement with nutritional supplementation.

I am impressed by the fact that the independent studies do appear to complement each other. There appears to be a direction which is each supporting the other in terms of, as I have indicated earlier, the longer the participation of the pregnant women, the more positive the outcome. This is associated with the reported increased energy intake during the pregnancy. This is associated with an increase in mean birth weight and a decrease in low birth weight, and may reach further into the issue of the decrease in neonatal mortality.

There is a significant decrease in the percentage of infants with anemia following the 12-month participation in the WIC Program. Infants and young children demonstrate equivocal results with respect to anthropometric measures. Increased caloric requirements for activity with increase in age may suggest anthropometric measures may not be as meaningful as developmental measures. Infants and children at greatest risk should be clearly studied and evaluated independently with respect to growth as an outcome measure. The preventive health considerations of the program should be emphasized, and the WIC Program is designed, basically, to prevent deficiencies in high-risk populations. The package is supplemental and designed to accomplish the preventive objective, rather than the therapeutic considerations that we really have focused upon. And in a preventive health program like WIC, it is not wise, or in my judgment, cost effective, particularly for the young child, the young infant, to wait for the evolution of a health problem before developing an intervention in terms of those high-risk infants. And evaluative measures are often too crude to identify more subtle program benefits, and the nutritional supplementation of WIC is importantly integrated into the health care delivery system, and it is very difficult to isolate study independent of the health care system operating in a particular locality and community, irrespective of whether WIC is present or not, and the ecological effect of the program, the spillover effect, may limit any independent evaluation of WIC inasmuch as it influences all health care in a community.

Thank you very much, Mr. Chairman.

[Additional questions submitted to Dr. David M. Paige by Senator Jesse Helms, and answers thereto:]

Question 1. To what factor(s) do you attribute the higher proportion of low birth weight infants and higher infant mortality in the United States than in other advanced countries that you described?

Answer. Low Birth Weight.—The following is a summary of the factors associated with low birth weight in the United States. The information in part is abstracted from Vital and Health Statistics Series 21 Number 37 entitled "Factors Associated with Low Birth Weight United States 1976" DHEW Publication No. (PHS)80-1915, April 1980.

OVERVIEW

Infants weighing 2,500 grams (5½ pounds) or less at birth are considered to be of low birth weight. Low birth weight infants may be either premature, that is, born before 37 weeks of gestation, or full term but small for their gestational age. The association between low birth weight and a greatly elevated risk of infant mortality, congenital malformations, mental retardation, and other physical and neurological impairments is well established. A recent survey indicates that low birth weight infants are likely to have low Apgar scores and to be delivered by cesarean section or in a breech position, and with associated dangers to both mother and child. This group of births accounts for more than half of all infant deaths (under 1 year), and nearly three-quarters of all neonatal deaths (under 28 days), according to a national study of matched birth and infant death certificates.

It is therefore important to develop intervention strategies which can improve the outcome of pregnancy by reducing the proportion of low birth weights. Nutritional intervention is one critical approach to improving outcome. It is the very heterogeneous nature of the United States population which places a vast number of subgroups of pregnant women at risk for having a low birth weight baby. The following summary of principal findings from the above cited report provides a perspective of who is at risk. It is clear most variables associated with low birth weight are nested in poverty.

FACTORS ASSOCIATED WITH LOW BIRTH WEIGHT

The summary of information derived from 1976 birth certificates indicates the incidence of low birth weight in the United States varies widely by race and by mother's age, marital status, place of residence, nativity, and pregnancy history. However, the socioeconomic status of the family as measured by the mother's educational attainment appears to be one of the most critical factors in determining birth weight.

The proportion of infants of low birth weight born to mothers with 16 years or more of education (4.9 percent) was half that of infants born to mothers with less than 9 years of education (9.9 percent). For the period 1950–76, the incidence of low birth weight was consistently higher among all other infants than among white infants, and this difference increased progressively. By 1976, the risk of low birth weight was twice as great for infants of other races (12.1 percent) as for white infants (6.1 percent). Comparing racial and ethnic groups, it was found that the incidence of low birth weight in 1976 was highest among black infants (13.0 percent). Although black babies were far more likely than white babies to be of low birth weight when born at full term, among premature infants (less than 37 weeks' gestation), the incidence of low birth weight was, on the average, only slightly higher among black babies. For almost all racial and ethnic groups, higher levels of education were associated with a lower incidence of low birth weight.

Very young mothers and mothers in the later years of childbearing were most likely and mothers aged 25–29 years were least likely to bear a low birth weight baby. The incidence of low birth weight in 1976 ranged from 6.0 percent of infant born to 25–29 year old mothers to 10.5 percent of infant born to 45–49 year old mothers and 14.8 percent of infant born to girls under 15 years of age. The risk of low birth weight for infants born to teenage mothers decreased with each successive year of the mother's age, declining to 8.8 percent of infants born to 19 year old mothers.

For each age group, the incidence of low birth weight varied with the birth order of the child. It was quite high for children born to women 15–19 years old bearing a fourth or higher order child (20.3 percent), and highest for babies born to girls under 15 years old bearing their second child (30.5 percent).

At all ages, unmarried mothers were more likely than were married mothers to bear a low birth weight baby. Overall, in 1976 the incidence of low birth weight was twice as high for infants born out of wedlock.

Regardless of age, mothers were least likely to bear a low birth weight baby when the interval between births was 2-4 years. The incidence of low birth weight was especially marked for fourth and higher order births to teenage mothers and mothers in their early twenties, an indication of the detrimental effect of the close spacing of births. The outcome of the previous pregnancy was also found to be related to the birth weight of the current birth—a previous pregnancy terminating in fetal death increased the likelihood that the current birth would be of low birth weight.

Although the initiation of prenatal care early in pregnancy was associated with a decline in the incidence of low birth weight, a substantial part of this decrease can be explained by the higher educational attainment of the mothers who started care early. Regardless of when prenatal care was begun, there was a higher risk of low birth weights among out-of-wedlock than among other infants.

Live births in multiple deliveries were about 9 times as likely to be low birth weight than were those in single deliveries (54.3 percent compared with 6.3 percent). Part of this difference is due to the reduced gestational period of infants in plural deliveries. Female babies were more likely to be of low birth weight than were male babies regardless of whether the birth was single or part of a multiple delivery.

Both white and black mothers living in large urban areas were more likely than were mothers residing in small urban places to bear a low birth weight baby. The lowest incidence of low birth weight was among infants born to mothers residing in primarily rural areas. The proportion of low birth weight babies was highest in the South Region (8.0 percent) and lowest in the West Region (6.4 percent), but some of the regional differences were due to variations in the proportions of black births.

THE UNITED STATES COMPARED TO OTHER ADVANCED COUNTRIES

In considering differences in low birth weight and infant mortality between the United States and other advanced countries, it is suggested that an important consideration is the difference in the proportion of neonatal and early infant deaths in the United States and other developed countries is due to the difference in proportion of low birth weight infants. As an example the experience of the Netherlands, Sweden, and New Zealand may be used to define a low rate low birth weight country at less than 5% of its live births. While the difference in the estimate of 5% versus an estimated of 8.0 percent groups of women in the United States may appear small, the possible statistical effects on neonatal mortality may be considerable. In adjusting the United States percentage of low birth weight to equal that of the low rate countries, it was reported in the National Center for Health Statistics, "International Comparison of Perinatal and Infant Mortality," Series 3 Number 6, March 1967, that 85-90% of the observed differences in neonatal mortality between the Netherlands or Sweden and the United States could be accounted for by differences in low birth weight magnitude between the countries.

Question 2. If, as you suggest, the WIC Program is most effective for women in certain high risk subgroups such as those with low weights, should not the program be more targeted toward such women to encourage positive results?

Answer. Targeting Program Benefits.—The above cited sociodemographic factors identify a high proportion of low income pregnant women being at risk for a poor outcome of pregnancy as measured by a higher proportion of low birth weight infants. In as much as the characteristics of this class of women indicate a much higher probability of risk, it seems both prudent and conservative to provide nutritional support to all women in this high risk category. We do not as yet have the diagnostic tools available to determine which women within the high risk category will indeed give birth to either a low birth weight infant or manifest other negative outcomes.

As a result of these limitations, the current approach in the WIC Program of defining risk as a result of low income coupled with the second criterion of the program, nutritional risk, is both logical and defensible. While it would be most efficient to provide maximum support to pregnant women who will have a low birth weight infant or other adverse outcome of the pregnancy, we cannot either clinically or programatically identify these women individually. Even with the example cited in the question as to selectively targeting women for program benefits who demonstrate inadequate weight gain during the pregnancy, the problem as discussed above is that we cannot predict sufficiently early in the pregnacy who will demonstrate this problem.

Population based medical care and public health practice dictate that we define as precisely as possible the populations at potential risk and design intervention strategies that will reduce the probability of an adverse outcome. While epidemiologically based research can direct our attention to a variety of groups at risk it is not possible to target programatic efforts as precisely as suggested by the question because we simply do not know which individuals within the high risk class will have an adverse outcome of pregnancy. Once we have indications that poor outcome is likely to be the case, due to poor weight gain, or other observable or quantifiable medical conditions, intervention using preventive strategies are too late to be of any value.

The CHAIRMAN. The concern of some people in Congress, myself included, goes back to the sharing I was talking about. They wonder if part of the problem is not that the WIC Program really is becoming an adjunct or a part of the Food Stamp Program, because other people in the family use the food. I guess it is like anything else. How do you discipline the treatment if you are a doctor. You can put the label on the medicine.

I have got to ask about the suggestion made not long ago—I have forgotten who made it—that a great deal of the difficulty could be solved by vitamin pills. This country is obsessed with vitamin pills. Dr. Billy Graham put me on vitamin C about 10 years ago. I cannot report whether it did any good or not, because I do not know how many colds I would have had if I had not been taking it.

Ms. CHELIMSKY. A familiar evaluative problem. That is known as Aunt Sarah's cold medicine problem.

The CHAIRMAN. Well, Billy is big on vitamin C.

Let me ask you, Ms. Chelimsky, or Dr. Rush, or any of you, how significant is a 1- to 2-percent gain in birth weight, as reported by the various studies, especially when the average is already above the 2,500-gram level—and we have established that that is 5.5 pounds.

Ms. CHELIMSKY. We have not really looked at the clinical significance of those gains. Our work has essentially been statistical and evaluative. I guess I would put much more emphasis on the decline in low birth weight infants than on the increase in the body weight, the 1- to 2-percent increase in body weight. But I would defer to my colleagues here to speak to that.

Dr. RUSH. It could be very significant, and the reasoning is that the relationship of birth weight to infant survival is logarithmic, or in other words, very steep. There is a doubling of the infant death rate for about every 150-gram decrease in birth weight. The 2,500-gram division is a convenient fiction. In fact, this logarithmic relationship is constant up to about 7 pounds birth weight, and then it flattens.

Now, if a 50-gram increase from WIC is translated into the increased survival expected for heavier infants, it is very important indeed. However, to find that out is a nontrivial and extremely difficult research task. This problem suggests one of our greatest priorities and obligations. My estimate is that the proportion of funds available for research and development, relative to the amount of funds for nutrition programs, is absurdly small. These are research questions which can be addressed, but are difficult and require modest amounts of increased food. The best current answer is that small changes in birth weight might well be very important, but at the moment, there is no way to know.

Dr. PAIGE. I would suggest that the two are complementary, and as the mean birth weight increases, it is not just the simple increase of 50 or 60 grams; clearly, a 7½-pound baby is just as joyously received as a 7¾-pound baby. But what it demonstrates is that there is a shift of the distribution of weights, with the mean shifting upward, and the tail of that distribution, the very low birth weight infants, are moving up. So that you are pushing out of this low birth weight category a proportion of infants by increasing the mean birth weight, and therefore, this is why it is reflected in a decrease in the proportion of low birth weights. In my judgment, they are complementary and reciprocal, and it is particularly gratifying to see that the two are working in tandem. It would be distressing to see an erratic shift in one or the other dimension without seeing the two moving ahead.

So it is an increase in the mean birth weight, the 50 or 75 or even 100 grams, in the normal range, and the high part, the central part of that distribution, 6½, 7½, 8 pounds, has very little clinical significance. The importance, however, is profound in terms of shifting the whole distribution of birth weights upward, and the mean is shifted, and from that perspective, it is quite important. And we do know that if there is one anchor to the whole discipline of maternal and child health, and something that we think about a great deal, it is the fact of low birth weight infants. It influences and drives the neonatal mortality; two-thirds, three-quarters of all of the mortality in the neonatal period is a function of low birth weight, and influences disproportionately the infant mortality in the United States. Anything you can do to reduce low birth weight is a very significant and important intervention strategy in the United States. This goes beyond weight, any maternal and child health program, that we can isolate.

Maternal and child health services in the United States have struggled over the generation that I have been practicing pediatrics, in trying to reduce low birth weight, anywhere from neonatal intensive care units to issues such as WIC. This is the perspective that I have on the issue.

Ms. CHELIMSKY. That is why I feel the 16 to 20 percent—I quite agree with you—is significant, if we could show that it was, in fact, as conclusive as we would all like to believe.

Dr. BARNES. I just think it should be pointed out that they do not necessarily go together. The increase in the mean birth weight might not be accompanied by the nice finding we have, that there is also a shift in the lower end of the distribution.

Ms. CHELIMSKY. The finding is even more significant.

Dr. FAIGE. Yes, I think the point is that it is gratifying to see the two complement each other.

The CHAIRMAN. Right. This is all very interesting. Obviously, there are some things out of reach of the WIC Program or anything else that we are trying to deal with, but we have got to start somewhere.

Dr. PAIGE. There may be an irreducible minimum with respect to low birth weight. We do use other advanced countries, Scandinavia and so on, to try to judge our mortality rates against, and one of the factors that continues to come up in the U.S. population is the high incidence of low birth weight. And if we could adjust our fig-

ures to equal the proportion of low birth weights in the Scandinavian countries, as an example, we would then have parity with respect to the far lower infant mortality rates that exist in those countries. And we have, clearly, several percentage points higher of low birth weight in the United States, and this continues to plague the maternal and child health picture in the United States.

So, one does reach, and sometimes even overreach programmatically to do what you can to reduce it, not only from the human and humanitarian point of view, but from a cold cost effectiveness point of view, the cost to support, in the short-term, a low birth weight infant is considerable in any neonatal intensive care unit in the United States, and the aftermath of that in terms of decreased cognitive performance, handicapping conditions, and other problems which ensue as a result of low birth weight can be considerable in terms of human and capital cost over the life of the individual.

So, one in our field does overreach on occasion to do whatever they can to reduce, even by a small percentage, this problem.

The CHAIRMAN. How long have you been practicing? You are a very young man.

Dr. PAIGE. Thank you.

I have been practicing since 1964, and as I left this morning, I kissed my wife of almost 25 years goodbye——

The CHAIRMAN. Well, you had better send me some of that water you drink. [Laughter.]

I was laying a predicate for a question. Since 1964, I will bet you have been astonished at the advances in technology in pediatrics. There was a celebrity golf tournament—I do not play golf anymore—but I went over to Durham, and Arnold Palmer and I went to the intensive care unit at Duke Hospital, for these little things, no longer than that, and they put the gowns and masks on us, and I was just fascinated. These children would have been wiped out 20 years ago; they would have been gone. They were no bigger than your hand.

Dr. PAIGE. We were operating in virtual ignorance when I started. There was one regimen that was just becoming fashionable, called the Usher regimen, and this was coming down from Canada, and we were struggling to save infants at 2,000 grams, and now we can save them at 1,000 grams—which is very striking. And we really have here the horns of a dilemma with respect to the therapeutic intervention strategies versus the preventive strategies. I have a foot in both camps, and you keep running back and forth.

Clearly, the therapeutic intervention strategies are tangible, and you can see the impact and the result of that in terms of the advanced, technologically important neonatal intensive care unit. But I humbly submit to you that some of the elements of the WIC Program—and I mean this with the greatest professional sincerity—also have this type of impact with respect to salvaging, permitting that fetus to grow just another 5 or 10 days or deposit just a little bit more fat, which is the principal consideration in those latter stages of pregnancy, and it requires an energy transfer from the mother to the fetus. And that, too, is more difficult to circumscribe.

But my own analysis of the scope of the literature, not just the WIC, but putting it in context, I believe, with the greatest profes-

sional judgment that I can bring to bear on this—not a polemic—that it does make a difference.

Mr. BARNES. I think you have the difficult job now of putting all these comments together.

The CHAIRMAN. They have been very helpful.

Ms. CHELIMSKY. It is surprising for GAO to find so many people agreeing with us, however. This is probably the first time that has ever happened to me. Most of these findings are quite similar.

The CHAIRMAN. Well, I do appreciate all of your comments.

Dr. PAIGE. I think that we will indeed be able to clarify several of the issues—I know we will, because I know the results for about half of the work. The other half, we are in the process of analyzing now. So I think that while it is not going to shed enormous light on all the questions, some of the questions will be a good bit more secure and the answers a good bit more secure when we are able to share with you the results of the current evaluation than they are at the moment, especially since on some important issues, there is such a paucity of current information.

The CHAIRMAN. Well, let's stay in constant communication, because we need you, and I cannot tell you how much we appreciate your helping us walk through this thing. I could really sit here all day, and apparently, I am intending to, with one panel. But I have enjoyed it, and I have learned from it, and I do appreciate it.

Thank you very much. We may write you a couple of questions so we can add them to the record, if you do not mind doing that.

Thank you.

[The following letter was subsequently received by the committee:]

NATIONAL WIC EVALUATION, NEW YORK STATE RESEARCH FOUNDATION FOR MENTAL HYGIENE AND COLUMBIA UNIVERSITY,
New York, NY, April 23, 1984.

Hon. JESSE HELMS,
Chairman, U.S. Senate, Committee on Agriculture, Nutrition, and Forestry, Washington, DC.

DEAR SENATOR HELMS: The Food and Nutrition Service has asked that I write to help correct some possible misunderstandings that appear to have arisen from my testimony to your Committee on 15 March, 1984.

As I explained, the current National WIC Evaluation consists of five components:

(1) a review of past research on the effects of the WIC program;

(2) a study following nearly 6,000 pregnant women nationwide, who were recuited in early pregnancy, and followed through the birth of their children;

(3) a study of the effects of WIC benefits on over 2,000 of their preschool children;

(4) an assessment of the effect of WIC benefits on their family's food expenditures, and finally; and

(5) an historical assessment of the effects of the WIC program on the outcome of approximately 12 million births in 15 states, over the nine years, 1972–1980.

I and my staff are primarily responsible for the analyses, and subsequent reports, for four of these studies; the analysis of the economic impact of WIC is the primary responsibility of Research Triangle Institute.

The apparent misunderstanding arose because my testimony may have been construed to mean that FNS had more information in hand at that time than was in fact the case. While FNS closely monitored, and participated in, study design and execution, they have been fastidiously careful to allow us freedom to pursue data analysis and interpretation in those ways which we judge to be scientifically optimal. If, in their opinion, our work needs clarification or amplification, or change of emphasis, they respond to our written drafts, as does a very active, skilled and well-informed Advisory Panel and group of consultants.

The exact state of affairs, as of today, for the work we are doing, is as follows

(1) *Review of past evaluations of the WIC program.*—Our report was mailed to FNS and the Advisory Panel on January 24, 1984. As of now, the only challenges, or suggestions we have received, I would judge to be minor. The next version will have more emphasis on summary judgment, and is due at FNS in mid-June.

(2) *Longitudinal study of pregnant women.*—I saw the first analyses of this study only a few days ago, between 17 and 19 April. A report on the women's dietary intake will be mailed today or tomorrow, and on maternal anthropometric changes and birth outcomes, by mid week. The initial results are complicated, and we have begun to seek consultation and counsel from eminent experts in this field, in order to better understand their meaning. These results are, in my judgment, nowhere near ready to use in the policy making process, and this is the largest and certainly the most costly component of the WIC evaluation.

(3) *Study of preschool children.*—A lengthy and detailed initial report was sent to FNS, the Advisory Panel, and consultants, on December 9, 1983. We received a careful and comprehensive response from our then FNS Project Officer, David Shanklin, on December 23, 1983, as well as helpful suggestions from others. An amplified and expanded version of this report was sent to FNS and the Advisory Panel on April 12, 1984. In my judgment, this work now is reasonably secure. It lacks only an overall summary, which I deferred writing until I had the results of the study of pregnant women in hand. Again, we will respond to all reasonable suggestions and requests from FNS and other consultants.

A final version of this report is due on termination of our contract on 31 July. Since none of the analyses submitted last December have been superseded (although some interesting new results have been added) my guess is that the overall conclusions of the study will not be changed much, but, as we have more time to think about their results, our interpretations do become more comprehensive, and our insight into the meaning of the research becomes much more secure, and I would judge, more helpful to others.

(4) *Historical study of the effect of WIC on birth outcome.*—Fragments of this analysis were shared with FNS in December 1983, but the first really comprehensive report was sent on March 30, 1984 (I mentioned in my testimony of 15 March that the results would be in the hands of FNS "at any moment." In the hustle-bustle of our lives, 15 days is just such a "moment".) This analysis was dauntingly complex, and we have recruited a remarkably knowledgeable set of experts to review it. My guess (and my hope) is that it will stand this searching scrutiny, but this study needs scientific peer review. We have asked reviewers to respond by May first, and their responses will then be shared with FNS and our Advisory Panel on 9 and 10 May. We will respond to suggestions and criticisms in a reworking of this report, to be submitted in mid-June.

Thus, on March 15, of the results of new work arising from this evaluation, FNS only had most of the Child Study in hand, and little else. They must now consider whether both our ultimate understanding of the issues under study, and the legislative process, are best served by serial release of information, as the various segments of the WIC evaluation are brought to maturity, or whether a balanced and comprehensive understanding of the program is best served by having all components of the study ready and in polished state before public release. Both positions have their merits.

My experience with the staff of the Office of Anaysis and Evaluation of FNS has been consistently that, within the bounds of limited resources, their only motives have been to ensure the highest quality, and most relevant, evaluation. I see no reason to revise that judgment at this time.

Yours truly,

DAVID RUSH, M.D.,
Principal Investigator, National WIC Evaluation, Professor of Pediatrics and of Obstetrics & Gynecology, Albert Einstein College of Medicine.

The CHAIRMAN. The second panel includes a dear friend of mine and other fine folks.

Ms. Patricia K. Wilkins is the chief of the Office of Maternal and Child Health Services of the State of Washington; and my longtime friend, Dr. Berrey, and Ms. Gaye Joyner, director of the Bureau of Nutrition, Jefferson County Department of Health, Birmingham, AL.

We thank you for coming.

Without objection, a statement of the able Senator from Iowa, Mr. Jepsen, will be included in the record immediately following the statement inserted on behalf of Senator Huddleston.[1]

Thank you very much, and you may proceed.

STATEMENT OF PATRICIA K. WILKINS, CHIEF, OFFICE OF MATERNAL AND CHILD HEALTH SERVICES, STATE OF WASHINGTON, OLYMPIA, WA

Ms. WILKINS. Thank you, Mr. Chairman.

As you may have noticed from the testimony that I prepared and submitted, I tend to be very brief and to-the-point, since it was only 4 pages, and that was double-spaced. I also am not going to read it. I will not even wear my glasses.

I just want to talk to you.[2]

The CHAIRMAN. Good.

Ms. WILKINS. I want to talk to you from the perspective of an individual who has been in the field of social and health services for 22 years, professionally, across the country, starting out in New York. And now I am out there in the State of Washington, so it has been a broad spread scope.

I also happen to be a single parent of four children, one of whom happens to be retarded. And I will speak to you about the aspects of appropriate nutrition as it relates to disability.

In my 22 years, the first 15 to 18, my emphasis was in working with disabled people of all types, not just mental retardation. Further, I have a master's in business administration and have been an administrator at the local level running preschool WIC clinics, whatever you want to—anything you can think of is what I was running. I have worked at the State level, and I have worked at the Federal level, in a variety of social service programs.

So, when they asked me to take on the Office of Maternal and Child Health Services as of December 1 of this year, it was a great rarity in the State of Washington. First of all, I am the first female office chief they have ever had. I am also not a doctor. I was requested to take over this responsibility because of my administrative background and the broad scope from which I perceive social services—not just a WIC Program or a crippled children's services program. I have become quite concerned, sometimes a little angry, when I hear people try to separate out the benefits of the WIC Program, the benefits of a maternal and child health well clinic, the benefits of school. I cannot tell you, Mr. Chairman, how important it is at the local level, when you are trying to struggle with the limited dollars and sometimes no dollars, to find a way to serve a family that comes to you with problems coming out of their ears, whether it is no food at all, or inappropriate foods, too many kids, no employment—all kinds of things. You cannot stop and say, let me see, now. Should I put this kid on WIC, and then the funding will allow me to have the mother come in on a different day for the MCH clinic, and then the funding will let me send her down the street to the mental health clinic. It becomes incredibly difficult to serve those people in need that you see every day.

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[1] See p. 84 for the prepared statement of Senator Jepsen.
[2] See p. 117 for the prepared statement of Ms. Wilkins.

So, as a result, I have struggled a long, long time as an administrator to find ways to allow the service system to work logically, and by happenstance, efficiently, so we can serve more people with fewer dollars.

I am a great believer in what I call "two-fers"—two for the price of one. And believe me, you can do it; you absolutely can do it. I have long been not pleased with my colleagues in social services who have been not willing to recognize the fact that it is not enough to be "goody two-shoes" people. You have got to be accountable. So I certainly respect everyone's opportunity, my own included, to find ways to make things measurable in social service. But I can guarantee you that in the 22 years I have been doing this stuff, it is only in the last 5 years that people even knew what the word, "outcome" meant in our field. Outcome? Oh, well, that really does not matter, you see. You get that kind of reaction.

And even now, as I have taken over the programs in Washington—and I will speak specifically to the WIC Program—my first question was: What are our outcome goals? What are our process goals? How are we going to measure them? And I got the looks, you know, those stares—oh, you mean, we will serve 10 people. And I will just use these kinds of figures. We will serve 30 children. We will serve—and I said, no, no, no. Those are not outcome goals. How are we going to affect the lives of the people we serve? What is it that we say we are going to do? What is it that we say we are going to accomplish?

Frankly, Mr. Chairman, those kinds of questions have not really been asked, particularly in the health field, in public health, the field I am in; certainly, not in many of the social service areas.

And so, when we look at 10 years of a WIC Program and try to determine how can we evaluate the impact of the program or the outcomes, it is a pretty difficult task, and we did not even decide in the beginning of the program what those outcomes were.

The CHAIRMAN. That is the point.

Ms. WILKINS. You bet it is, and it is the point in all social service programs.

The other point I have got to make, because it really bugs me to death—I work every day in a program, and so I have grappled with how can I get that little old clinic down there an extra $1,500 so they can have a part-time nutritionist. And that is a serious, serious problem. It is disconcerting to me when I see the potential negative, possibly, impact on a program like WIC that is so great, because the evaluators, the specialists in the field of research and evaluation, cannot get together on a design that is going to answer the questions people want to ask. And so, we have a research study to study all the research studies, to come up with the answer that those research studies really were not any good. That scares me to death to think that we are going to make decisions in that kind of thing. I would rather have you make some decisions by getting input from people like me, all of the States. And certainly, in the State of Washington, I felt it critical enough for this program to fly out here for 7 hours last night, and I am going to leave here at 2 o'clock this afternoon, because I wanted to tell you this, Senator. I just had to tell you that the WIC Program is by far the best con-

trolled, designed, implemented, social service program that I know of, including from the start back in the thirties.

Do not let anybody tell you that it is anything like food stamps. No way is it anything like food stamps.

The CHAIRMAN. But you will acknowledge that there is a tendency with the administration of it, when the focus is not on the right thing.

Ms. WILKINS. Are you saying when it is not specifically targeted or restricted?

The CHAIRMAN. Yes, yes.

Ms. WILKINS. OK. No; I will not agree with that, Mr. Chairman, no.

The CHAIRMAN. You do not agree. OK. Well, I am glad you came—I think.

Ms. WILKINS. My daddy was Irish and German, and he always told me, "If you have something to say, let it be the truth, and then, say it."

The CHAIRMAN. Well, I guess what I am saying is that we have so many instances in my State, for example, where that just becomes a part of the total, and the use of food is not directed to the child.

Ms. WILKINS. Yes; I know what you are saying, but believe me——

The CHAIRMAN. You still think that is all right.

Ms. WILKINS. No; what I am saying is I understand what you are saying, and I think that perceptions of people are not accurate. Most people think that anybody who goes in for social services—like in our State, they have to go to a single office; they used to be called welfare offices, and that got to be a really bad stigma, and so now they are called community services offices—but anybody who walks in is considered a welfare client, and is automatically going to abuse the system, fraud, and manipulate and get everything they can possibly get their hands on. I would be the first person to say that the Food Stamp Program is a mess; it should be just put a towel around it, wrap it up and throw it away—as soon as you have a substitute for it—not until. Certainly not that structure.

And in the State of Washington, by the way, this year, 1983, 54 percent of our total client load was serving the severe women and infants. That is the first time we have hit over 50 percent on that.

The CHAIRMAN. Excuse me. I want to acknowledge the arrival of the distinguished Senator from Mississippi, Mr. Cochran, who is going to preside. I told Howard Baker I would call him 20 minutes ago, and he is going to fire me if I do not do it.

I am going to let you take over from this point on, but I will be back.

Ms. Wilkins, you did not notice my friend, Dr. Berrey, here, but when you were disagreeing with me, he was nodding his head.

Ms. WILKINS. With you or with me?

The CHAIRMAN. With you, with you. So I believe I am outnumbered here.

Thad, please come and preside, and excuse me for just a second.

[Senator Cochran assumed the chair].

Senator COCHRAN. Thank you, Mr. Chairman.

Had you completed your presentation, Ms. Wilkins?

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Ms. WILKINS. No, Senator. I have just a couple more minutes of things to say, and I want to be very specific to administrative concerns that many of us who are State directors have, and those are three.

One is we would like serious consideration given to the fact that we perceive the WIC Program to be a preventive health program, and we do not feel that enough recognition and/or emphasis has been given to that aspect of the program. In that regard, to me, the most important preventive aspect is the fact that pregnant women, especially young teenagers and minority women, come into the health care system for the first time through the WIC Program. They would otherwise not be there. That allows us, then, to do other preventive situations with them for their families, children, and so on. So it gives a chance to refer people to other parts of the system, when those people would not have even been in the preventive health system at all.

The second thing is the matter of expenditure authority. Now, this is strictly an administrative matter, and I understand that. However, it is very serious if we are going to be able to better our efforts to manage the caseloads, increase the high priorities, client utilization, and so on.

In all of the other programs for which I am responsible, we have a 1-year grant award with a second-year expenditure authority. That allows us appropriate management controls. Right now, with the WIC, you get your grant for a year, and you have got to spend it in a year, and you have got to give it back if it is not expended, so you end up being forced to attempt to both project, plan, predict and manage on very, very short time periods, say, 3 months, frequently, or 6 months. You get your case histories from around the State, caseload, utilization rates, and you have got to predict. And that is simply not a sound, appropriate management tool. You really need 12 months minimum, or 18 months, to get a pattern so you can effectively manage and move your moneys around and do what needs to be done. So I think it is terribly critical that that second-year expenditure authority be implemented. And I would suggest not to confuse that with carryover, which you will hear a lot of people saying, "Let us do a carryover type expenditure authority." That is really a ridiculous situation, because all you do is you get your 1-year grant award, you carry over the money you did not expend into the next year, and you deduct that amount of money from your next year's grant, and so the next year, you do the same thing, and you just keep going on and on and on, and it does nothing for actually identifying the costs of your programs and the expenditures.

So I suggest that when you talk about carryover, you make sure which they really want. My experience says they want the second-year expenditure authority.

The last thing that I would like to offer is that the WIC expenditure—the two pots of money that are now identified for WIC are called administration and food expenditures, and that has been a terrible, terrible mistake. Whoever decided on that at the beginning really did themselves a disservice, and thus have done us a disservice by saying administration is a single pot. It is simply not so. Within that pot of money, the very smallest amount goes for

what most of us know as administration—managers, clerks, et cetera. The larger part goes for health services. And sadly, each time, as I have watched across the States——

Senator COCHRAN. What is the percentage of that that goes to health services? I remember using a percentage yesterday in my questioning of Mary Jarrett and her associates from the Food and Nutrition Service. It was a terribly high percentage, as I remember.

Ms. WILKINS. Yes—of the total?

Senator COCHRAN. Yes.

Ms. WILKINS. I know what it is for my State. I do not know what it is nationally.

Senator COCHRAN. What is it for your State?

Ms. WILKINS. It is less than 10 percent of the total pot.

Senator COCHRAN. The true administration cost.

Ms. WILKINS. The administration, right, much less than 10 percent.

Senator COCHRAN. What is your reaction, then, to the administration's recommendation that they cut the administrative cost portion from 20 to 18 percent of the spending for next year?

Ms. WILKINS. A terrible, terrible reaction. It is a very negative reaction if they do it in that manner.

Senator COCHRAN. What that amounts to, then, is that we will not be cutting administrative costs; we will be cutting the medical health care facet of the program; is that correct?

Ms. WILKINS. You got it. That is what happens. And every time that has happened, when we have had lowered financial support from the Feds, the health services piece is what gets cut, because you have got to have the administration to run your program, so they say. So I just hope that people understand that, and if there is going to be a reduction, that it needs to be targeted reduction, and truly administration, if that is the case, but I would not reduce it, of course, at all. I mean, I would be silly to say I would.

Lastly, I would like to say——

Senator COCHRAN. When you cut people from your staff, does that mean you cut service, as well?

Ms. WILKINS. At the local level, yes, absolutely, because the staff are the people who do the service. At the State level, it is different, because we are not direct service people, but strictly administration.

Senator COCHRAN. How many people are on your staff in Washington who are running the WIC Program?

Ms. WILKINS. State?

Senator COCHRAN. Yes.

Ms. WILKINS. Six. And that is, as I understand it, a very small staff. We have lots of problems in the State of Washington, which I am now working on turning around, since the WIC Program is such a large program, but they are primarily management problems, and they can be corrected very, very easily.

Senator COCHRAN. Well, you are very kind to be here and to fly 7 hours.

Ms. WILKINS. Well, it is that important.

Senator COCHRAN. I think driving through the Washington traffic each morning to work is bad, but you win the prize.

Ms. WILKINS. Thank you, sir, for this opportunity.
Senator COCHRAN. Thank you.
Dr. Berrey?

STATEMENT OF DR. BEDFORD H. BERREY, ASSISTANT STATE HEALTH COMMISSIONER, OFFICE OF HEALTH CARE PROGRAMS, STATE OF VIRGINIA, RICHMOND, VA

Dr. BERREY. Thank you, Mr. Chairman.

I am delighted to have the opportunity to appear today. I have a statement for the record, and I have about 10 minutes of summation that I would like to provide.[1]

At the outset, I am very much aware of the importance from the administrative point of view of reducing costs and expenditures where possible.

It was my good fortune to serve as a citizen volunteer on the President's Private Sector Survey on Cost Control, known as the Grace Commission, so I am quite well aware of that interest.

I am speaking not as a researcher or evaluator, but as someone from the trenches, and I would say that we in Virginia enthusiastically support the WIC Program. There is no question that this program has met and continues to meet the nutritional needs of a segment of our population, those low-income women and their infants and children who are at nutritional risk.

We all know WIC is not food stamps. Rather, it is a soundly based program, carefully developed, and thoughtfully administered by the Department of Agriculture. The program encompasses and requires a medical health assessment, and of equal importance, nutritional education. These two essentials set it apart from all other food and/or nutrition programs operated by the Federal Government.

Virginia's Health Department is rather unique. We operate under the broad policy guidance of a single board of health, appointed by the Governor. The State health commissioner serves as the chief executive officer of the department.

We are organized into 5 regions, 35 health districts, and 118 local health departments. Some health departments operate satellite WIC service sites. All told, we have 156 WIC service sites in Virginia. Each locality, city, town or county, in Virginia has a health department which receives policy guidance, program direction and resource allocations from the central office in Richmond.

Through the 8-year history of WIC in Virginia, we have experienced frequent visits from the Food and Nutrition Service, as well as from the USDA's Office of Inspector General. We have had our own internal audit, as well as audits by the office of the State auditor; we have been audited.

We are proud of our program and most especially proud of the ratings we have received pertaining to the coordination of WIC with other health care services.

The recent fiscal year 1983 USDA management evaluation of the Virginia WIC Program summarized the advantages of our State's administration of the program when it stated, and I quote:

[1] See p. 121 for the prepared statement of Dr. Berrey.

We commend the state agency on the wide scope of health care services offered to WIC participants at clinic sites and on the high degree of WIC Program integration into the local health care system. We believe the health care setting in which WIC is offered in Virginia epitomizes the regulatory intent that WIC be an adjunct to good health care. Moreover, during our observation of several certifications, we noted the thoroughness and professionalism with which medical histories were taken, nutritional risk determinations were made, and nutrition education was given by local agency staff. We continue to emphasize that the involvement of these health care professionals in the WIC Program distinguishes it from other food programs as one concerned with health care.

In Virginia, we have identified roughly 136,000 eligible women, infants and children. With our budget allocation to Virginia, of $26.5 million, we have been able to provide the appropriate food packages, medical and health assessments, and nutritional education to roughly 64,000 WIC-eligible persons.

While we have no waiting list in Virginia, where priorities for service become important, nonetheless, 57 percent of our participants are in the three highest priorities as established by USDA.

It may be of interest to note our relationship with the private practice of medicine. There have been isolated requests that private physicians be permitted to operate the WIC Program. We believe the present system provides the greatest assurance that the nutritional education requirement is met and that the 6-month certification requirement is not overlooked. Perhaps the greatest nonmedical, nonnutritional reason is accountability for public funds. No person or agency looks forward to audit exceptions.

Improved outreach has become a major goal of the WIC Program in 1984. To increase information-sharing, private physicians from across the State speak at our annual WIC nutrition educators meetings; and many of our local and regional WIC nutrition educators have spoken to individual groups of physicians.

Another major strength of the WIC Program is its strong emphasis on nutrition education. Individuals learn from WIC nutritionists and nurses about their specific nutritional needs, the nutrients necessary in the human diet, and the foods that contain them. They are taught to shop for nutritious foods and to prepare well-balanced, economical meals. The goal is a positive change in eating patterns that can benefit WIC participants not just during the period when they are on the program, but over the subsequent years of the lives as well.

In a questionnaire distributed last year to over 6,300 women on the WIC Program in Virginia, 91 percent responded that they now feel that learning about food and health is very important.

The cordial letter I received from Senator Helms invited me to make comments on the recently published General Accounting Office report, and it indicated that suggestions on administration would be welcome. And I take that opportunity to provide such information.

With respect to the GAO study, we heard their evaluation this morning and a discussion of it. We believe the report fairly assesses the existing WIC studies as to their statistical rigor. It nonetheless seems to grudgingly admit that participation in WIC does to some degree produce favorable effects, particularly on birth weights.

It would have been a more balanced report if it had emphasized that a nutritionally based supplemental food program should not

be expected to produce dramatic, short-term improvements in nutritionally related outcomes. Changes resulting from altered nutritional patterns occur over time. It may be months or years before clear evidence of positive changes become manifest. While I profess no expertise as a nutritionist, my nearly 34 years as a board-certified pediatrician convince me that this longitudinal aspect of evaluation must not be overlooked. This is in sharp contrast to certain preventive programs, such as immunization, which produce outstanding and measurable results. The eradication of smallpox is a prime example.

In fairness to all who are concerned with maternal and child health and infant mortality and morbidity, I do not believe that we can afford to seriously believe that WIC by itself can be expected to alter maternal or infant mortality. What WIC can do is provide an immensely valuable addition to prenatal medical management programs such as Maternal and Child Health. The coordination of the two programs is particularly effective for the high-risk pregnancies. Its continuance after birth is a forceful ally to improved postnatal care for the mother and her infant at a time when nutrition education is so important.

In Virginia, WIC participants are encouraged to enroll in MCH programs or at a minimum have ongoing health care from a community provider. And conversely, the MCH program uses WIC as a nutritional adjunct to medical care where the need exists. They are considered in close alliance and our clinic personnel are constantly on the alert for patients at higher risk.

We strive to ensure that low-income women start their prenatal care in the first trimester and receive at least 10 prenatal visits prior to delivery. In an effort to reduce infant mortality, of which low birth weight is the most common cause, nutrition becomes a very important element in the care of pregnant women and especially so for high-risk adolescent pregnant women.

We are all aware of the adage, "If it ain't broke, don't fix it." That adage may be appropriate to these deliberations on the WIC Program, in which I understand there has been some consideration of combining WIC with the MCG block grant.

Section 505 of title V of the Social Security Act states that the Maternal and Child Health Program will coordinate its activities with such programs as EPSDT and WIC. However, section 504(b)(2) states that allotment funds may not be made for cash payments to intended recipients of health services. This legislation could possibly prohibit the use of MCH block grant funds given in the form of negotiable checks for the purchase of food commodities, unless the statute is amended, should the merger of WIC and MCH be seriously considered.

Turning to the administration of the program, I think it is imperative that we never lose sight of the fact that the purpose of the WIC Program is to provide supplemental food, nutrition education, and health assessment through local agencies to those who are eligible. Administration of the program from its source at USDA here in Washington, through the regional offices to the States must focus on provision of services and outcomes and less on process. Too much time and money spent on process surely is self-defeating and counterproductive to the goals of the WIC Program.

Citing two examples may be illustrative.

The 1983 WIC State plan guidance consisted of 39 pages. When health providers are committed to the goals of WIC, the inclusion of such detail as the definition of what constitutes a certain type of nutritional education seems to be an excessive concern with process and minutae.

The 1982 guidance package indicated that "the State plan should describe how the State goes about identifying the race and/or ethnic group of the individual participant." I think that is really belaboring the obvious.

I might say that because Virginia and northern Virginia are loaded with the boat people, we have nutrition education materials published in Spanish, Cambodian, Laotian, Haitian, and also Afghan. So we kind of cover the waterfront.

Improvements have been made in the notification of the State grant level for each fiscal year. At one time, notification was due on a quarterly basis. For fiscal year 1983, it was January 1984 before the grant level became known. For fiscal year 1984, it was December before we had solid figures upon which we could plan for that year.

There are still problems in this area, and some have been due to continuing resolutions and indefinite information on grant levels.

On the matter of WIC administrative costs, some have suggested that 20 percent of a State's allocation going for administration is too high. We disagree. That might be true if it were only the usual costs connected with the administration of a Federal program. In the case of WIC, however, we need to recognize that the cost of operating this program goes far beyond those which are ordinarily perceived as administration in nature. These costs encompass all of the aspects of health/nutrition assessment expenditures, as well as nutrition education costs.

We urge you, therefore, to recognize that 20 percent is the minimum level of administrative funding that will allow WIC to operate in accordance with the way it has been designed.

Another issue which I would urge you to consider is the possibility of new language in the WIC authorizing legislation which would allow a State to overspend its fiscal grant up to a certain limit—and I believe I heard Ms. Wilkins take some exception to that possibility. It could be 1 percent, with the stipulation that such overexpenditure would be deducted from a subsequent year's grant. We think this would permit State agencies to come closer to spending their full allocation in any given year, while at the same time guarding against large overruns. To be sure, such a feature presupposes the continuing existence of the WIC Program for the foreseeable future—a prospect I trust and hope this committee will endorse. Toward that end, I strongly urge you to reauthorize WIC for a 4-year period, at funding levels which will at the very least allow us to maintain our current program levels.

WIC is one of the very best public health programs we have, and with that kind of continuing support from you, we are committed to making it even better.

Thank you.

Senator COCHRAN. Thank you, Dr. Berrey.

[Whereupon, Senator Helms resumed the chair.]

Senator COCHRAN. Mr. Chairman.

The CHAIRMAN. Ms. Wilkins, I am not sure I made myself clear a while ago. Let me try again. Maybe you and I do not have any disagreement at all.

First of all, let me say that we wanted you to come here today, and we are grateful that you did come, because your State has perhaps the best record of targeting.

What did you say it was?

Ms. WILKINS. We have hit over 54 percent of the high-risk women and infants.

The CHAIRMAN. Well, let me ask staff where I got this list, which shows 41 percent.

Ms. WILKINS. That is probably 1982 and perhaps the beginning of 1983. My figures are current, as of now.

The CHAIRMAN. I will take your figures over these, because your figures are better.

Ms. WILKINS. Well, the staff provided me with these on Tuesday afternoon at 5 o'clock.

The CHAIRMAN. Good.

Now, here is my fear. I have a responsibility as a Senator to try and prevent, to the extent possible, States—and there are some, believe it or not, that will take advantage of a loophole and so on—I do not want to be in a position of rewarding those States that have a large number of people participating, regardless of whether they are serving the nutritional needs. Do you understand what I am saying?

Ms. WILKINS. Yes, I certainly do.

The CHAIRMAN. Now, that was the point I was trying to make. I do not know whether you have seen this story in the Los Angeles Times. Fifty-four doctors have been barred from nutrition projects out there because they were doing everything in the world, falsification and so forth——

Ms. WILKINS. We do not let people like that in the State of Washington.

The CHAIRMAN. We do not have those kinds of physicians in Virginia or North Carolina, either.

Ms. WILKINS. Oh, I knew that, too. [Laughter.]

The CHAIRMAN. Absolutely. But 54 physicians in Orange County, CA and Los Angeles County, because they submitted grossly inadequate data allowing patients to obtain food coupons, and these coupons were being redeemed for everything in the world except nutritional food.

[The article referred to by Senator Helms follows:]

[Reprint from the Los Angeles Times]

STATE BARS 54 DOCTORS FROM NUTRITION PROJECT

(By J. Shriver, Jr., Times Staff Writer)

State health officials, in one of the largest enforcement actions of its kind, have suspended 54 physicians in Orange and Los Angeles counties from a nutrition program for allegedly submitting grossly inaccurate data to allow patients to obtain food coupons.

The State Department of Health Services said Tuesday that it suspended the doctors from participating in the federally funded Women, Infants, and Children nutri-

tion program after discovering about 4,000 cases in which doctors submitted false blood and weight tests or other inaccurate health information.

The 21 Orange County and 33 Los Angeles County doctors named Tuesday were not charged criminally and may continue practicing medicine, health officials said. However, the physicians—all but one of whom have Indochinese names—will no longer be allowed to refer patients to the nutrition program.

Error rates on tests submitted by some of the doctors were 100 percent, officials said. They said doctors whose error rates exceeded 20 percent were suspended.

The suspensions follow the February 15 Medi-Cal fraud probe by the State Justice Department that led to the arrests of 42 Vietnamese doctors and pharmacists in Orange and Los Angeles counties.

Although the two investigations are unrelated, five of the Orange County doctors suspended from the nutrition program were arrested in the alleged Medi-Cal fraud—including Nguyen Gia Quynh, personal physician of former South Vietnamese Premier Nguyen Cao Ky.

The 54 suspensions are the largest single crackdown in Southern California since the nutrition program began in 1974, according to Elouise Jenks who has been director of the Women, Infants and Children program for the Public Health Foundation of Los Angeles County since 1974.

Health officials said that Indochinese doctors were singled out for punishment. Jenks speculated that because most of the children who receive Women, Infants, and Children benefits in Los Angeles County are Indochinese, they presumably prefer to go to Indochinese physicians. who are therefore not likely to conduct the required tests.

Some women who obtained the food coupons through bogus medical test results are believed to have exchanged the coupons for cash on the streets for cigarettes, paper towels, and other non-nutritional items at grocery stores, said Jack Mets, state director of the program.

The Women, Infants, and Children program is designed to help correct nutritional problems, such as anemia, in children under 5. Pregnant women and mothers who breast-feed are also eligible for the food coupons, which are issued monthly and are redeemable for about $35 worth of milk, cheese, eggs, beans and other high-protein products.

Officials said $280,000 worth of coupons are distributed to 7,300 people each month in Orange County and about $2.9 million worth of coupons are distributed to 81,000 in Los Angeles County, statewide, the program issues $7.2 million in coupons a month.

Can That Ton, a Los Angeles County physician who examined the most Women, Infants, and Children patients—182—and submitted 102 erroneous test results, could not be reached for comment.

Three other suspended doctors who allegedly submitted false blood tests said however, that they did not intentionally falsify results. Two of those doctors attributed their erroneous results to the subjective nature of the blood test.

The test involves smearing a small amount of blood on a slide and visually comparing it with a reference slide to determine grams of hemoglobin present, doctors said. Children with hemoglobin levels above 11 grams are not entitled to receive assistance from the program.

"You look at the slide and compare the color," said Dr. Solomon Lutsky of Santa Ana, the only non-Indochinese physician affected. "Most of the time it's a question of opinion. Naturally, it's an advantage for them (the health department) to read the test results as being above 11 grams so the patient will not be entitled to enter the program."

"It's a primitive test," said Dr. Terence Laung of Los Angeles, who conducted tests on 50 patients.

Dr. Vo Tu Nhuong of Santa Ana, chairman of the Southern California Regional Committee for the Support of Resistance Movement in Vietnam, said that weak batteries in laboratory equipment were responsible for his bad test results. Nhuong was not arrested in the Medi-Cal probe.

Jenks disputed the doctors' claims and called their errors, "quite flagrant. There's no question but that the results were inaccurate. It's my understanding that most of the physicians did not have qualified laboratory personnel" to evaluate the tests.

The CHAIRMAN. I guess what I am saying to all three of you is that we need some help in trying to tighten up this system.

Ms. WILKINS. Oh, yes, it is possible, and there are all kinds of ideas, and I certainly would be very willing to spend more time at another time.

The CHAIRMAN. Well, you said they ought to take the Food Stamp Program and wrap it up, as soon as we get something better, and we are working on that, too. But I am going to conduct some food stamp hearings in North Carolina next Monday.

Ms. WILKINS. It is a shame what has happened to that program.

The CHAIRMAN. I had the Inspector General send agents to North Carolina, and he reported back to me within 2 weeks that all they had to do was go onto the street, and let it be known that they were in the market for food stamps—they would buy them for 40 cents for a dollar, sell them to some grocery store for 80 cents, and everybody makes money except for the poor taxpayers, you see. This is all I am trying to do, Doctor. I am accused of being hard-hearted all the time, but the only ones I am hard-hearted toward are the crooks.

So I really need your help. And you do not need to say anything today as far as suggestions, unless you have some, but I wish you would let me know what you think we might do to tighten up this thing, to prevent this sort of thing.

Dr. BERREY. In Virginia, we do not have private practitioners involved, as I said.

Ms. WILKINS. Right. Ours is the public health department.

Dr. BERREY. I would say some of them have made a clamour for it, and we say no way, because of the problems that you were talking about right there. So they participate with us and work on the education, and they give us feedback, but we have withstood any serious concern about them running it on their own as an adjunct to our program. And I would only add, sir, that WIC has to be in some way integrated with the MCH program. They have to have some link, because they are two stand-alones, but they complement each other, they supplement each other, and they are a natural relationship. So that is our thinking in Virginia.

Ms. WILKINS. Just a quick angle, Senator, on your concern, and it will take a second. The vendors, the grocers, in the WIC Program, in my opinion, can be encouraged, directed, to play a much stronger role, and there is the key in not allowing just anybody under the sun to walk in with their voucher, or somebody's voucher, and get the food. If we train the vendors and get them involved, which we are just starting now in Washington, to become a part of the WIC team so that they know what their responsibilities are and implement them, you can help prevent any kind of fraudulent use.

Dr. BERREY. We have tightened up our program very much. We have had 53 instances of both fraud and/or abuse. The majority of those were related to food stamp grocers who got caught on food stamps, and as soon as they are caught on food stamps, WIC is cut off. So 53 out of 60,000 a month over several years is a small number.

The CHAIRMAN. Well, I apologize again, and thank you, Senator.

[Senator Cochran assumed the chair.]

Senator COCHRAN. Ms. Joyner, I encourage you to proceed in any way you like. We are probably going to get called over to the floor

to participate in the development of an agenda for the Senate this afternoon, so I am sorry that we are pressed for time.

I had an opportunity while we were here to read your statement. I read your statement and I listened to Dr. Berrey at the same time. I do not know how my daughter can do homework and watch TV at the same time, but she does, so maybe it is an inherited trait.

But I was impressed with the content of your statement, particularly your comments in detail about what makes up administrative costs and why it would be an error for the Congress to approve the administration's requested cutback from 20 to 18 percent in funding of the administrative costs. You are at the county level, and you are in charge of the day-to-day operation of the county system in Jefferson County, AL.

Ms. JOYNER. Yes, Senator.

Senator COCHRAN. Why don't you go ahead and make whatever summary comments you like. I would be interested to know whether you think this is a change in terminology of administrative costs that can be made by the Congress—I am thinking about maybe writing in language in our appropriations bill. I happen to wear two hats. I am chairman of the subcommittee that has jurisdiction over the funding of the Department of Agriculture's programs, but I also serve on this legislative committee, the committee that we are conducting the hearing under the auspices of today. I am thinking about writing language into the appropriations bill to discuss the problem of the definition of administrative costs, whether that might be sufficient to help clarify what these costs are, or whether we need to have legislation or maybe just encourage cooperation on the part of the administration to redefine administrative costs. I would be interested in your comments about that.

Well, you may proceed to make any other summary comments that you like. We appreciate your being here.

STATEMENT OF GAYLE JOYNER, DIRECTOR, BUREAU OF NUTRITION, JEFFERSON COUNTY DEPARTMENT OF HEALTH, BIRMINGHAM, AL

Ms. JOYNER. Thank you, Senator.

I do consider it an honor to address the committee.[1] As you stated, I am the director of the Bureau of Nutrition of the Jefferson County Department of Health in Birmingham, AL. And also, for the last 10 years, I have served as the WIC coordinator for our county. It is in this capacity that I was asked to speak before the committee to address issues that we feel are important to the local level.

I would like to begin with a discussion—and I realize you need me to summarize, so I will try and make this short—but we are concerned that the original intent of the conference agreement for fiscal year 1984——

Senator COCHRAN. This is the appropriations bill?

Ms. JOYNER [continuing]. Yes, sir—was $1.06 billion, to be spent for October 1, 1983 through July 10, 1984. And this has been trans-

[1] See p. 129 for the prepared statement of Ms. Joyner.

lated to $1.36 billion for the annualized rate, which means we need an additional $300 million supplemental appropriations for July 11 through September 30 to maintain.

Senator COCHRAN. Our full Committee on Appropriations just this week approved $300 million additional.

Ms. JOYNER. I just found that out this morning, and I was pleased to hear that the committee did pass a $300 million supplemental appropriation, and I would hope that this measure would be approved by the full committee.

I think the main thing I would want to stress as an example of what would happen on this—the difference between the administration's proposal of $167 million and the $300 million supplemental that we would like to have is roughly 55 percent. In numbers and terms of local county, if the administration's proposal is approved, about half of our participants—we now have about 12,400 clients—would have to be taken off in less than 3 months, and you can imagine the chaos and havoc at the local level.

The administration has also proposed a $1.25 billion budget for fiscal 1985, and they have projected that it would serve 2.7 million clients. Again, our concern is that by other projections from CBO, taking into consideration food price inflation, which is certainly a factor, that proposal would in reality serve only 2.55 million clients. WIC currently is providing food and quality nutrition education to roughly 3 million clients. At the national level, we are talking about, again with the difference, taking off 450,000 eligible persons in 1985 if that proposal were accepted. In local terms, that would mean a reduction of 15 percent in our caseload next year.

Obviously, any reduction in caseload will be a hardship for clients in Jefferson County, since we are still suffering double-digit unemployment in the two major cities in our county. I use those two cities as my example, because our five major health centers where we have the WIC Program are in those two cities—Birmingham at 15.4 percent, and Bessemer, which is a small industrial city, 21.7 percent. Also, our infant mortality rates continue to be high in Alabama—and I will only zero in because of time on Birmingham and Bessemer—Birmingham, for the nonwhite population, 18.7, and for the Bessemer area, 23.6 percent for the nonwhite population.

The economic recovery has not hit Birmingham, and any reduction in our caseload would be most serious for our participants.

A concern that has been mentioned today several times and has risen before is targeting of services to high-risk clients. We feel that the current regulations already provide a mechanism for prioritizing the clients based on the nutritional risk criteria. At the local level, we feel that the clients we now are serving are the high-risk clients. We already target for nutritional risk and income, and you might note in Alabama, we are only using 170 percent of the national ceiling of 185 percent, so we feel we are already targeting the high risk. And because of the previous testimony, I will mention that in Jefferson County, we are serving 41 percent priority 1 and 2, and 75 percent of our caseload is in priorities 1, 2, and 3.

We support a 4-year reauthorization to establish stability in funding, to assist us in meeting program requirements, and to

maintain credibility in our communities. With the one-time allotment of the jobs bill, because of our high unemployment and our high infant mortality rates, we increased our caseload. We finally had the funding to support staffing to handle the caseload. You mentioned earlier that at the local level, you have to have the staff to certify the patients to have a program.

We increased our caseload from 8,000 to 12,000 participants in 4 months. You can imagine—we had to have special clinics; our personnel board went along with us in trying to get people hired in an orderly fashion.

We are now serving all six priorities, and yearly fluctuations in funds would put us back on the roller coaster, on-again, off-again mode that we thought was past history with the WIC Program. I have been telling my staff that this year, and I would like to continue to believe that is past history.

Not only is this a difficult thing for our clients to accept, but it is a difficult thing for our staff to work with. And I mentioned that in the last 6 to 9 months, we have been in a recruiting, hiring and orienting phase with new staff. We feel we are finally at a staffing level that is appropriate for our caseload, based on staffing standards established in our State, for 1 professional per 600 clients—most of my staff serve 850 to 1,000 clients per month. But we are getting closer to the 600 than we have ever been. Faced with these fluctuations, not only would our clients suffer, but also the integrity of the program. I am sure that the committee can appreciate that the havoc caused by the constant fluctuations in funding is felt most acutely at the local level. And we face it, as has been said, on a day-to-day basis.

The administration has also proposed a reduction of the WIC administrative funds from 20 to 18 percent. Administering a WIC Program involves much more than the clerical work of issuing vouchers. Here are a few of the costs that must be paid from these administrative funds. Nutrition education, which is mandated at a minimum of one-sixth of the administrative funding, includes activities which are distinct and separate efforts to help participants understand the importance of nutrition to health. Costs to be applied to nutrition education may include, but are not limited to, salary and other costs for time spent on nutrition education consultation, the procurement and production of nutrition education materials, the training of nutrition staff, evaluations of nutrition education, salary and other costs incurred in developing the nutrition education portion of our State plan and local agency nutrition education plans, and the monitoring of nutrition education. Another administrative defined cost is the certification procedure. This includes laboratory fees for tests, expendable medical supplies, medical equipment required within the program such as centrifuges, measuring boards, calipers, scales, et cetera, and the salaries and other costs for time spent on certification. Still other administrative costs are: the cost of administering the food delivery system, the cost of translators for materials and interpreters, such as needed for our Vietnam clients, the cost of fair hearings, the cost of transportation for rural participants, and the cost of monitoring and reviewing program operations.

This definition, I think, is where we have our problem in terms of misinterpretation. We feel WIC is unique, and we admit that, because the professional, medical, nutritional assessment, and counseling services are in administrative costs. And that is a misnomer.

The National Association of State WIC Directors at their February 1984 meeting, and in the House hearings on Tuesday recommended renaming the category of administrative costs as "direct services and operational costs." That is just one example, but we may need to do something to clarify the title of this category, because it includes nutrition/health assessments, nutrition education, and State and local program administration. In other words, that category includes everything except the food.

One point that has not been mentioned today, but I feel concerned about at the local level is there has been some discussion of elimination of duplication of services with WIC and child care feeding programs as an alternative to another form of targeting. In Jefferson County, we feel that these two programs do not represent a duplication of services. WIC is a supplemental food program, and because we have the professional staff and nutrition consultants working within the program to tailor the food package, we identify children in CCFP programs, and we tailor the package accordingly. For example, if they are getting milk in the breakfast and lunch program and for a snack, we reduce that portion of our food package to take care of the 5 days that they are in the daycare program. So we can actually tailor the package, and we do not see that there is a duplication of services, because in addition to the food package, WIC provides individualized nutrition consultation and education as a major component, and the other food assistance programs do not have this to offer.

I am also wearing a different hat. As a member of the Department of Agriculture's National Advisory Council for Maternal, Infant and Fetal Nutrition, I represent metropolitan program directors on that Council. I am concerned—and I wanted the committee to be aware of this concern from several members of our Council—that the Council's input and expertise has not been elicited by the Department in this most important reauthorization year. You probably know very well that we are mandated to submit a report to the President and Congress every 2 years, and that report is due this year. We cannot fulfill our responsibilities when 7 of the 21 positions remain vacant, when no meetings have been called by the chairman since last May, and as the Department has not provided the Council with adequate technical assistance.

I think I have summarized my testimony, because I had to shorten it, but my major concerns, as you have addressed, are the supplemental appropriation for this year, the funding at $1.471 billion for next year to maintain current caseloads. We would like to have a multiyear reauthorization, preferably for 4 years, and we would like to maintain the current definition of population served, because we already feel like we are targeting. And we would certainly support a maintenance of administrative funding at 20 percent, and possibly redefine that category.

Thank you.

Senator COCHRAN. Thank you very much, Ms. Joyner, for the contribution that you have made to our hearing, for an excellent

statement, bringing to the committee a perspective of someone who is there in the trenches and dealing with the problems out in the real world on a day-to-day basis. I think this improves our knowledge not only of problems that you face, but responsibilities we have to recognize that these programs are designed to benefit real people, and we have to have administrators working with them.

I am glad we are having these oversight hearings to evaluate the WIC program. On an annual schedule, we review the requests of the Department and the agencies for funding of the programs in the Appropriations Committee, and I know I have benefited by the hearings that we have had. But I think the greatest benefit I have gained in terms of understanding the program is actually visiting the State, talking with the directors in my State and those who are responsible for administering the WIC program, and then going out to sites where the package is being put together, and the people are there to try to take advantage of not only the food distribution, and the supplemental feeding program, but also looking at the way the beneficiaries are evaluated from a medical standpoint, talking with medical staff. I think this is something that every Senator and Congressman ought to take time to do, other than just sit here and go through the business of having a hearing in this formal kind of setting. It has certainly helped me understand the program and some of the problems we face.

While I am not chairman of the Nutrition Subcommittee or anything like that, I do have a special interest in this program. I guess in my State, we probably have more participation per capita in the program than any other State in the Union—I am from Mississippi—and we have a very keen interest in the program and in making sure it is continued and in improving it.

I know that last year, there was some discussion of a proposal by the administration to revise the way funds were allocated throughout the country. I know some States would have benefited from that proposal, mainly those which had a higher population and really higher per capita income, too, and smaller States which were poorer were going to necessarily be hurt by that new proposal. That was suspended; there was no change, in fact, made.

I wonder if you have any comments from the State of Washington, Ms. Wilkins, about the way the funds are allocated? Do you have any suggestions for any better way or a more equitable way of doing that? The administration talks about creating more equity and stability in the program, but whenever I hear that, that makes me nervous. I do not know who it is going to be equitable for.

Ms. WILKINS. When it comes to management, I almost always have a suggestion.

Seriously, the existing formula that the administration uses now, the equity formula, with the three components to it, I believe is going to be helpful to us. We have, at least right at this moment, 103,000 already identified eligible clients, potential clients, who we have not got on the program, and that is before I do this new management thing where we are going to redo our affirmative action plan. So I know it is going to be worse than that, that is, more uncertain. And this equity formula that the administration has now is going to assist us, not in the basic stabilization formula—everybody will get that piece—but in the equity discretionary amounts

of money that they make available to the States like Washington with such great need.

Our unemployment in one county is 32 percent now as of last week.

Senator COCHRAN. What is your reaction, Dr. Berrey?

Dr. BERREY. I tend to agree with Ms. Wilkins. I would like to go back to one of the earlier points you made.

Senator COCHRAN. Let me get Ms. Joyner's reaction to this, because I am going to have to leave in about 2 minutes.

Ms. JOYNER. I would agree with the way we are doing it this year, in terms of the equity funding. We feel like it is starting to balance out for the States that have needed the funding. We are seeing that carried down to the local level. So that we do have the support this year for our caseload.

Senator COCHRAN. I think it was important for you to bring out the problem you have at yearend when you are trying to hit the State's allocation. You mentioned that in your testimony and so did Dr. Berrey. You were suggesting that there be some allowance—say, if you fall short, you do not have to return the money to the Government, that there would be some kind of margin of error.

Dr. BERREY. Some carryover percentage.

Senator COCHRAN. Two or three percent, maybe—would that be appropriate? You said 1 percent.

Dr. BERREY. One percent, or it might be variable, not to exceed *x* percent.

Senator COCHRAN. That might solve the problem. Do you agree?

Ms. WILKINS. No.

Senator COCHRAN. You do not think so. That is not a problem that you are confronting; it is more of a State administration problem, isn't it?

Ms. WILKINS. Right, and the effect on the local level.

Ms. JOYNER. We have asked the State staff, in effect, to do that, their answer has had to be, "We cannot do it." It would really help the local level because what is implemented in terms of the cutbacks does not affected the State staff directly; they do not have to go through it. The local level does, and we are the ones who have to take the people off, tell them, "We are sorry; you will have to come back. We are going to put you on a waiting list," et cetera.

Senator COCHRAN. I know that there are necessarily requirements and guidelines. You have identified some of the requirements and guidelines that maybe hamper the administration of a program. I think all the administrators like a little more flexibility than any program provides. But you have helped us to identify those that might be too burdensome and not productive.

I appreciate very much having a chance to get to hear some of your testimony and to be here with you for a little while.

On behalf of the chairman, we thank you for being here, and the contribution you have made to this evaluation of the WIC Program. The hearing is now concluded.

[Whereupon, at 12:23 p.m., the committee adjourned, subject to call of the Chair.]

EVALUATION AND REAUTHORIZATION OF THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN [WIC]

MONDAY, APRIL 9, 1984

U.S. SENATE,
SUBCOMMITTEE ON NUTRITION,
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Washington, DC.

The subcommittee met, pursuant to notice, in room 328-A, Russell Senate Office Building, at 2 p.m., Hon. Rudy Boschwitz, presiding.

Present: Senator Boschwitz.

STATEMENT OF HON. RUDY BOSCHWITZ, A U.S. SENATOR FROM MINNESOTA

Senator BOSCHWITZ. I am pleased to participate in this hearing on the WIC Program and the reauthorization of it. Senator Dole has asked me to chair this hearing because of his responsibilities on the floor with respect to the deficit reduction package. Under Senator Dole's careful stewardship, the Federal nutrition programs, particularly WIC, have continued ability to serve those most in need. This program was begun in 1972 and expanded nationwide at the urgings of one of my predecessors from Minnesota, Senator Hubert Humphrey. The WIC Program is now widely recognized as one of the most effective Federal nutrition programs.

The WIC Program provides food supplements and nutrition education to children up to the age of 5, and pregnant and nursing mothers. Participants must be at nutritional risk and low income. This program is carefully targeted at those who need the assistance the most. A mother or child must be found to be at nutritional risk by a health professional—either a doctor, nurse, or nutritionist. The family income must be less than 185 percent of poverty, a family of four with an income of less than $18,316 would currently be eligible. Families are being assisted that need the nutritional value of the foods and that need the financial help in purchasing these nutritious foods.

Participants generally receive vouchers which they can redeem for specified foods at authorized retail food stores. Infants under 1 year receive iron fortified formula and cereal, and fruit juice. One- to five-year-olds and women on this program receive milk, cheese, eggs, iron-fortified cereal, fruit juice, dry beans or peas, and peanut butter. The food packages are designed to provide needed calories,

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iron, vitamin A, and vitamin C to pregnant and nursing mothers, infants, and children.

Although questions have been raised by the General Accounting Office's recent report that suggested verifying the positive effects of WIC is difficult, I think it remains clear to me and most of my colleagues that if we are serious about addressing problems of malnutrition in this country, the most cost-effective way to do this is early intervention. We do know that malnutrition and hungry children can lead to problems in growth, learning, behavior, and even mental retardation in extreme cases. The study done by Harvard found that each $1 spent on pregnant mothers saved $3 in hospitalization costs due to the decrease in low birth weight infants. A program, such as WIC, to provide assistance before these serious complications develop is the best way to get a bang for our Federal buck.

The WIC Program serves women and children on a priority basis, with the most needy receiving service first. Ideally, we would like to be able to serve every woman and child who wants to participate in the program regardless of nutritional or financial need. But, this is not an ideal world. As this hearing is being held, the deficit reduction package is being considered by the Senate. We will need to keep our eye on the deficit and Federal spending. Therefore, I don't think it is realistic for the WIC Program to be able to serve all women and children. We're going to have to continue to choose priorities and serve women and children on this program who are neediest. Currently, 20 percent of the newborns in this country recieve WIC benefits.

The WIC Program is widely recognized as a cost-effective program and is politically probably the most popular Federal nutrition program. I think we will continue to see the program grow, even in these times of budgetary constraints, perhaps not as fast as some would like, but fast enough to accommodate pregnant women, nursing mothers, and infants at nutritional risk.

Again, I am pleased to be here and look forward to the witnesses' testimony on the effectiveness of the WIC Program.

The first witness is Richard C. Blount, Missouri WIC Program. And then Dr. Alvin Mauer, professor of medicine in Memphis, TN, the University of Tennessee.

Dr. Stanley Gershoff, dean of the School of Nutrition, in Medford, MA, University of Massachusetts.

Dr. GERSHOFF. Tufts University.

Senator BOSCHWITZ. Tufts. And Dr. Bailus Walker, commissioner of the department of public health, from Boston, MA.

It is my understanding that we will proceed with Mr. Blount first and Dr. Mauer, Dr. Gershoff, and Dr. Walker.

I want you to know we will be putting your entire statements in the record. And we arranged this hearing on Monday because this is an important program and normally Monday is not a busy day. Today, however, the Budget Committee has decided to meet, and is now meeting, and the Foreign Relations Committee goes in at 2:30. Being a member of both of those committees, I am torn. Being the only Senator here, I am going to have to stay, and I do want to stay. Do not misconstrue that. But we would like to ask you to

limit your statements to 5 to 7 minutes. However, if you cannot meaningfully make a statement in that time, you may talk longer.

STATEMENT OF RICHARD C. BLOUNT, MISSOURI WIC PROGRAM, MISSOURI DIVISION OF HEALTH, JEFFERSON CITY, MO

Mr. BLOUNT. Thank you, Senator.

I believe that we have more than a captive audience from what I know of your past support of these nutrition programs, even though I know you are drawn to be elsewhere.

I am speaking this afternoon not only as the State director of the Missouri WIC Program, but what I have submitted to you in full form is a statement of concern, prepared by the National Association of WIC Directors, which I was recently elected president of that national group.[1]

I welcome the opportunity to be here in both roles. Really, I will speak only to the cover sheet of the statement which has our recommendations on it, and I will try to be very brief about that.

During our national association meeting, we were privileged to have Senator Dole be our banquet speaker. We listened very attentively to the wise counsel that he gave us. During a couple of our workshops, we were also privileged to have some of the committee staff and Senators' staff. Tom Boney was with us at that particular time. We appreciated the fact that he very graciously outlined some of the things that Senator Helms was thinking about in new legislation.

Chris Bolton was there and shared some of the other views.

So, bascially, what I am going to do, if I may this afternoon, is to continue dialog that began there in part and briefly. In addition to that, I would like to have just a moment to say something about our Missouri evaluation.

In that continued dialog, Senator, what you see in front of you is a list of 10 recommendations. Many of these actually came in dialog relationship with what Mr. Boney was suggesting that Senator Helms and others were thinking about. To speak to them quickly:

Our association knows that this is the time for reauthorization. We feel that a 1-year reauthorization, as suggested, to be very disruptive to the program, both at the State level and at the local level. It creates an extreme negative climate, particularly at the local level, because the people there do not know whether to go ahead and expand the program or to see all that they can for fear that they may end up at the end of the year not being able to continue it, and then they create that kind of a negative climate.

We are suggesting that we believe the program has earned permanent authorization, but we really believe that a 4-year reauthorization is the most practical.

A second recommendation that we are making here is that there should not be no further targeting of program benefits beyond that which we believe are already proposed in regulations that were proposed in July 1983.

[1] See p. 135 for the statement of the National Association of WIC Directors.

What we believe about the targeting part, in targeting, we are not sure always what people are talking about. But, generally, they talk about those most in need. And our concern is that if you are not careful, you define "most in need" so narrowly that you really compromise the integrity of a preventive health program, which we understand was the original intent of Congress. And we championed that preventive health part of it.

So we would encourage that any consideration that is done on targeting always remember the preventive health aspect. And we think there is good justification even in time of fiscal crisis, which I will speak to in a moment.

Then our third recommendation is that we think the matter of administrative cost, which we talked about considerably in the workshops with Mr. Boney and others really should best be understood under more than the sterotype administrative definition. Because, being that it is a health program, we see that as providing health assessment, which is a direct benefit to the client. We also see it providing nutrition education, which is one of the important benefits that Congress wrote into the program. And those two direct client services, actually, are the major parts of what is referred to as administrative costs.

We redefined that in the recommendation. And we would redefine it as direct services and operational cost, which includes nutrition, health assessment, and nutrition education, plus the other.

And moving on quickly here——

Senator BOSCHWITZ. Let me ask you, what is the percentage of the program that is attributable to administrative costs, of the broad administrative costs having that broad definition you just——

Mr. BLOUNT. The broad definition right now is 20 percent. And the next recommendation we have here is talking about that it should be no less than 20 percent. We understood that some were talking about 15 percent; some were talking about different percentages.

We feel that if you cut that broad 20 percent, you are really going to eliminate those type of direct services that I have spoken of, nutrition education—not eliminate, but at least diminish them, so that they would be much less effective. In some cases, it actually would eliminate them because we would not be able to carry on the programs in the local agencies that we are now to the extent that we are.

So the feeling of indirect—pardon me, the direct service costs that are involved, we think, should maintain that ratio 80 to 20 so that 20 is no less than what it is now. We would make a case that it would be higher, but we will leave that to those of you who make those decisions.

Then the next thing that we would look at that we heard spoken of there in our workshops, there was some indication that there would be an establishment of limitation on the size of State agencies. And we felt that that was coupled again with the matter of administrative cost. But, to do that, it is the opinion of the directors that we would be punishing only the native Americans, because those are the only State agencies that we felt would be affected by minimum size. And the cost of the native American pro-

grams is relatively insignificant, considering the total cost of the program. We feel that since they have unique nutritional needs and program needs that we should not eliminate that for the few dollars that would be saved.

And then our sixth suggestion was that when you are writing your reauthorization, we would hope that you would try to keep as much as possible out of legislation itself administrative type procedures. Processing standards, public hearings and so forth we think can better be provided for in Federal regulations.

Then we moved on quickly in our recommendation here, as I tried——

Senator BOSCHWITZ. Why?

Mr. BLOUNT. Go right ahead, sir.

Senator BOSCHWITZ. Why?

Mr. BLOUNT. Why what, sir? Pardon me. Why the administrative things be left out of the legislation?

Senator BOSCHWITZ. Why are they better provided for?

Mr. BLOUNT. We think there is more flexibility. Let me refer to a specific example, if I may. As State directors, we are very much concerned about certainly seeing that the participants' rights are protected. The processing standards that we have there now ensure that the participant who comes in gets service at the very earliest possible date. In principle, we concur with that wholeheartedly. But if you have situations where you would establish a satellite for the convenience of the client out in a rural area so they would not have to travel so far, but then you turn around and put on that a 10-day processing for the prenatal woman, if she makes the contact, and you can only afford to go out to that satellite twice a month, you see, you could find yourself in violation of the 10-day processing standard simply because economically you cannot be there any more. Now you could bring the client into your health center, but to do that, then you put a hardship back on the client, so you violate another right so far as I am concerned to make the services accessible.

We think that the regulation, therefore, can better be tailored and revised as we find those type needs rather than legislation.

Does that answer your question?

Senator BOSCHWITZ. Yes, it does.

Mr. BLOUNT. OK.

Our last recommendations, basically, are dealing with legislative funding levels.

I understand that you have already acted in the Senate, and I commend you, to try to get the $300 million that we felt was the intent of Congress when you passed the continuing resolution moving.

We just want to say we hope that stays on the fast track because, if that does not get done within at least 60 days before the expiration of the continuing resolution on July 10, we will find many of our State agencies put in a situation where they will probably have to be shutting down simply because they cannot operate without the assurance of the funding to be there.

So I commend the Senate. I hope the House responds in like manner. Then the matter of what the appropriation should be with reauthorization.

Senator Dole gave us wise counsel about the importance of Federal deficits. We agree with him. We know that is a No. 1 Federal problem. The hardest thing that we had to do as directors was to come to some type of concensus among ourselves concerning recommendations for funding levels for fiscal year 1985 and through period of authorization.

Our conclusion was that State directors, being very much aware of the potential need, and also being aware of the benefit of the program, that we would be irresponsible not to at least bring back to the attention of this committee, to the Senate and to the House that we believe that the program has warranted, even in a period of austerity, because at best we are probably serving only one of every two or three persons out there. What we have discovered, even through the GAO report, and I will say a word about that and to the Missouri WIC Program study, that for dollars that are spent in preventive health with WIC we actually are saving dollars, even in the first 30-day period, more than we spend during the period of their WIC participation. We do that because you are having less incident of low birth rate, which puts infants in neonatal intensive care, which are high hospital costs.

Our Missouri study concluded that for every dollar we spent helping the mom during her period of pregnancy, we saved $1.42 during the first 30 days, because of the incident of low birth rate and other things. And we were able to document that through the study. So our conclusion was, as State directors, that we must say those things. I know you must make hard budget decisions. I think Senator Dole, I think yourself and others are aware of that. But when we look at Federal deficit, we are looking at future deficits. And we feel that the WIC Program is a way to cut down on the spiral in health costs. It is going to cost the country more in the future.

Moving on then to the matter of authorization for the yearend funding, we do not want, are not asking for an open-ended check here. What we are faced with, as State directors, in trying to spend responsibly the dollars that you give us administratively, we come down to the last part of the fiscal year and we have to be very careful that we do not overspend. So, consequently, in trying to break that kind of spending trend, we begin to cut back and get conservative and, consequently, frequently end up spending 1 or 2 percent less.

All we are asking at this particular point is that whatever way you can do it legislatively, you give us the authorization to, if necessary—not encourage it—but, if necessary, go ahead and spend up to maybe 2 or 2½ percent with the realization that that money that we spend would be deducted from our next year's grant. And that keeps us responsible and accountable, which we want to be. That also would mean there could still be reallocation money for other States if any State dragged its feet unnecessarily. We are simply asking you to give us a little management flexibility.

Finally, of our 10 recommendations here, Senator, we believe that the WIC Program ought to continue as a categorical program. There are a lot of arguments I know that can be made on both sides of putting it into a block grant. We feel that the specific accountability of the WIC Program, we are talking about an evalua-

tion. One of the things that gives WIC its strength is that we are, categorically, looking at it as a program that we can evaluate. If you merged that into all the others, I think it loses that type of specific identity and we believe that there already, in fact, I would again, if I had a moment more, which I will not take, allude to Missouri of how the State has within its own jurisdiction now means of merging those together in a very effective way. Those are the recommendations, Senator.

There is one other thing which I have attached, and that is a letter from Dr. Rush concerning the Missouri WIC evaluation.

We are pleased that we did the Missouri WIC evaluation of 1980 moms. We are honored that Dr. Rush has singled it out as one of the more credible and well done evaluations that he has studied in his 41 reviews.

GAO also singled it out as 1 of the 6 in the outcome of pregnancies.

We find that that evidence is very conclusive, in spite of what the subtitle of the GAO report be. They were saying that there was not conclusive evidence, and, nationwide, there may not be, but even GAO, Dr. Rush, and others have recognized that we do have conclusive evidence in Missouri that the birth rate was reduced—pardon me—the low birth rate was reduced by one-half if they participated in the WIC Program.

I would want to say that we went back to recheck our variables that Rush asked in this letter. And after we rechecked the variables that Dr. Rush asked, we were even more satisfied that our study did show that the difference was attributed to the value of the WIC Program, and not methodology.

I would say one thing, therefore, in closing. We are going to do another thing he said, do it again. We have already started to reevaluate. We are going to look at the 1982 moms to see if we can replicate.

I would urge you, sir, to have Dr. Rush also make known before you consider any reauthorization, if not in written form, at least in the content of what it is that he has found in the national study, because I have a feeling from our study that it also will be positive.

Thank you very much, sir.

I would be glad to speak to anything else, but I probably have exhausted my time, not my commitment to the program.

Senator BOSCHWITZ. Sir, are you finding that you have available resources to serve the people you are seeking to help in Missouri?

Mr. BLOUNT. Sir, when you say do we have available the resources, we think in Missouri we are probably serving about 1 out of every 2½ persons that would be potentially eligible. So, if you ask the question that way, I would say that we could double the resources and still spend the money very wisely and effectively. We do not have the personnel that we could grow that rapidly. We think it ought to be moderate.

Senator BOSCHWITZ. Are you able to serve the people who are coming to you for help?

Mr. BLOUNT. Fortunately, we have been able to serve them. We find that it has also enhanced the whole preventive public health program. If you give us the money, as you have, with moderation

and increases, we can continue to maintain the quality while expanding the program.

Senator BOSCHWITZ. Have we been too moderate?

Mr. BLOUNT. It is a matter of opinion, sir. I would probably say you have been fairly reasonable. I surprised you, did I not? You have been quite reasonable. I would hope that we would be able to continue the same type growth. Now, we have said in our paper what we think the growth ought to be.

Senator BOSCHWITZ. I notice that the program allows women with income up to 185 percent of poverty to be eligible.

Mr. BLOUNT. Yes, sir.

Senator BOSCHWITZ. Do you think that is too high? Do you think that should be reduced to 130, 140, or 150 to poverty?

Mr. BLOUNT. Personally, I will speak from the Missouri perspective. We set it at 175 percent ever since the 100 to 185 was passed. Frankly, sir, our own experience has that 10 or 15 percent higher would not change our participation. I speak simply out of experience, that ours are below the 175 percent consistently. We do not feel that 175 percent cuts off that much. In other States, that would be different. I think the 185 percent is a very acceptable level.

Senator BOSCHWITZ. Well, I would imagine that some of my colleagues would object to providing this kind of assistance to people who are at 185 percent to poverty. Let me restate the question.

Would we be serving those in need as well if we reduced that level to 160 percent?

Mr. BLOUNT. You would be serving those in need. When you say "as well," all of those under 160 percent, you would be serving as well. There would be some marginal people that I also feel would probably also be cut out of the program who could benefit from it. But, being responsible in looking at this, you have to cut. I would caution, Senator, sometimes when we cut thinking we are going to conserve, we actually hurt ourselves, because we eliminate the preventive aspect.

Senator BOSCHWITZ. Thank you very much.

Mr. BLOUNT. Yes.

[The following material was subsequently received by the subcommittee:]

QUESTIONS SUBMITTED BY SENATOR JESSE HELMS TO C. RICHARD BLOUNT, MISSOURI WIC DIRECTOR AND PRESIDENT OF NATIONAL ASSOCIATION OF WIC DIRECTORS, AND ANSWERS THERETO

Question 1. The General Accounting Office has consistently recommended that the definition of nutritional risk criteria used in the WIC program be refined, tightened, and made uniform nationally to eliminate disparities as to who can qualify for the program. What is your reaction to this recommendation?

Answer 1. I believe that the current definition of nutritional risk criteria used in the WIC Program is quite adequate. The specifics of each criteria in the Missouri program have been defined by an Advisory Council of prominent physicians, including obstetricians, pediatricians, researchers, nutritionists and program administrators. The criteria has been tested and refined through the past ten years of experience. If further fine tuning were to be considered appropriate, it would be possible under the current authorization.

My personal observation is that a high level of similarity among the state agencies has evolved without mandating a uniform national standard. It seems to me that to mandate a uniform national standard would be contradictory to the basic concept espoused by you and the administration to give more control to the states.

Question 2. Why do you oppose further targeting of WIC program benefits to those who are in the greatest need—pregnant women, breastfeeding mothers, and infants at nutritional risk? You spoke of the need to maintain the preventive health aspect of the program. Isn't targeting on these highest risk groups preventive?

Answer 2. I oppose further targeting of WIC Program benefits to "those who are in the greatest need" because as I stated in my testimony "those most-in-need" generally connotes "those who are identified as exhibiting some type of medical, anthropometric, or hematological risk". I believe that such targeting does compromise the preventive nature of the program. Certification for such criteria alone means that the client is already nurting healthwise. You are not preventing the base problem. Though you may be preventing more critical developmental problems, basically we would be providing therapeutic rather than preventive care for health problems already manifested by the more restrictive eligibility criteria.

Question 3. For instance, statistics submitted to the Department of Agriculture by Missouri indicate that only 42 percent of program benefits are going to participants in the two highest priority categories. If there are, as you stated, individuals eligible to participate who are not participating, why does your State not serve first the highest priority before serving lower priority categories?

Answer 3. It is true that 42-48% of the Missouri program clients are normally in priority I and II. It is reasonable to ask why not serve all of the potential priority I and II clients before serving lower priorities. I believe that there is also a reasonable justification for our present serving pattern. Approximately 72-82% of our clients are in priorities I-III, all related to medical, anthropometric or hematological risk discussed previously. Therefore, the vast majority of our clients have conditions requiring more therapeutic care than preventive. The remaining clients in priority IV-VI are more truly preventive. However, due to current funding limitations we have had to discontinue service to priority VI postpartum women except those who were certified as under 18 years of age at the time of conception.

Furthermore, we are delivering services to needy and at risk households. Generally, the prenatal woman comes in to receive services not as a single individual, but as a mother of one or more eligible children who are at great risk. It is unjust to deny services to those for whom the program was designed; particularly when they are in the health office and have been certified as at risk.

Another contributing factor is the difficulty of reaching all of those who are potentially eligible in the higher risk categories. Frankly, your proposal to restrict outreach as a valid operational cost would compound this problem. Currently, Missouri is directing most all of its concerted outreach to priority I and II. However, the funding restrictions limiting outreach services through neighborhood health centers and other health providers has created major obstacles in reaching the poorest of the poor who are less aware of or able to obtain the benefits elsewhere in the community.

Question 4. My concern with the need for targeting was reinforced by subsequent testimony by the General Accounting Office on April 25. Mr. Brian P. Crowley indicated that in the course of GAO's ongoing study on the administration of the WIC program, local directors had reported that WIC is sometimes turned into a "numbers game" where the relative health risk or need of those served becomes less important than simply filling the available caseload slots. How can we ensure that Federal funds are spent for those *most* in need, not just to swell the size of local or State caseloads?

Answer 4. It seems most ironical that you would give credence to hearsay anecdotal data allegedly stated by local directors to a GAO person and yet be reluctant to accept more concrete, evaluation data reported systematically by states, university agencies and professional evaluative agencies. Certainly, such data cannot be considered conclusive nor even credible as a reflection of the quality of program management. Frankly, I think such an inferred insinuation regarding the vast majority of program managers is an insult to the integrity of dedicated public servants.

Sir, we in the field are not playing "number games". There are dedicated workers in the states that are your best assurance that Federal funds are spent for those for whom the program is intended.

Question 5. The General Accounting Office, in subsequent testimony, suggested that the authority for States and WIC agencies to carry over part of their program funds, without loss, from one year to the next would provide them needed management flexibility and opportunity for targeting initiatives. Yet you seem to object to this method, favoring instead some device for States to this method, favoring instead some device for States to "overspend"—with a corresponding subtraction against future Federal appropriations. Is there any reason that the GAO approach,

similar to that which I introduced in S. 2545, would not be advantageous to States seeking financial stability and management flexibility?

Answer 5. As state directors we are not askng for the privilege to carry over program funds, without loss, from one year to the next. We do not believe we should under utilize available resources when the need for services are so great. We are willing to be held accountable for the just disbursement of all of our funds each year or else have them reallocated to agencies that need and can spend the funds to meet critical human needs. We do not want to encourage anything but maximum delivery of quality services.

The problem is how to spend all of the available funding without overspending in the last few weeks of the fiscal year. There are many uncontrollable variables including client participation during the last month or two, rate of voucher redemption, food price variation, etc. that makes it difficult, if not impossible, to forecast the exact program cost for any single month. To prevent overspending state management is under restraint during the last 30–60 days that tends to cause underspending. The National Association of WIC Directors has requested authorization for fiscal flexibility of only 3% to permit the states to deduct from their succeeding year's grant overspent funds incurred as they maximize spending in the last 60 days while recognizing the significance of the uncontrollable variables that may contribute to limited overspending.

Question 6. Are there any other Federal programs for which you have authority to overspend during the fiscal year, such as you are seeking for WIC? Are there any other Federal programs for which you have the authority to carry over unused funds to the following year?

Answer 6. I do not know of any particular Federal program granting the specific provision of flexibility requested. There are those programs which permit unspent monies to be carried over to the next year. Whether or not there is an exact precedent seems immaterial. The question is whether or not the request is reasonable and just. I am confident that Congress has the wisdom and power to provide creative authorization.

Question 7. What financial contribution, if any, does the State of Missouri make to the WIC program?

Answer 7. Missouri does not make a direct contribution to the WIC Program out of its general revenue appropriation. However, the indirect or in-kind contribution of public health in Missouri is considerable. As intended by Congress, the Missouri Program operates as an adjunct to public health. We have 100 local WIC agencies that provide facilities, support personnel and services beyond that which are reimbursed directly by WIC. Local agencies are constantly documenting more cost, primarily personnel hours, than that which WIC is able to reimburse due to limited funds for direct services and operational costs which includes nutrition/health assessments and nutrition education, plus local and state administration.

A 1978 survey of State and local programs conducted by U.S.D.A. found that State and local in-kind contributions comprised 13 and 40 percent of the total state and local costs.

Question 8. I know I asked the same question last year, but I wonder if you now have any specific data on the income levels of WIC participants in Missouri?

Answer 8. The Missouri WIC Program has established 175% of poverty as its income level for client participation. We do not have specific data as to what number of clients are at a certain income level. However, our observation through monitoring would indicate that most all of our clients are well below the 150% level.

Senator BOSCHWITZ. The next witness is Dr. Mauer.

STATEMENT OF DR. ALVIN M. MAUER, PROFESSOR OF MEDICINE AND PEDIATRICS, UNIVERSITY OF TENNESSEE, MEMPHIS, TN

Dr. MAUER. Thank you, Senator Boschwitz.

Mr. Chairman and members of the Subcommittee on Nutrition, I am Dr. Alvin Mauer, chairman of the Committee on Nutrition of the American Academy of Pediatrics and also professor of medicine and pediatrics at the University of Tennessee, Center for the Health and Sciences. I am pleased to be here today to comment on the reauthorization of the Supplemental Feeding Program for Women, Infants and Children.

During the late 1960's and early 1970's, there were several local, regional, and national surveys of child health and nutritional status. These surveys, such as the Memphis survey by Paul Zee and his coworkers, the 10 State regional survey and the national health and nutrition evaluation survey, found that there was an unacceptable proportion of children in this Nation who were undernourished by standards of retarded growth and such specific deficiencies as iron deficiency anemia. In response to the findings of these surveys, Congress enacted the WIC Program in 1972 to deal specifically with the nutritional deficiencies found in those studies.

An important part of the survey material was the close correlation between the proportion of people found to be undernourished and their level of poverty. Therefore, the WIC Program focused specifically on those economically deprived women, infants, and children. It further focused on those at greatest risk, that is, the developing infant and the pregnant and lactating mother.

I think in part the success and the perceived need of this program is indicated by its growth. It has gone from $20 million in fiscal year 1972 to more than $1 billion in fiscal 1983.

Senator BOSCHWITZ. I notice in your testimony it says 1974, is that a misprint?

Dr. MAUER. Yes, it must be.

And, in 1983, the WIC Program served about 3 million participants.

The advantages of this specific nutritional supplementation program are several. In the first place, it addresses a population of people who are at specific risk for nutritional deficiencies and for whom nutritional deficiencies pose particular problems; that is, the pregnant and lactating woman and the growing infant, just to give you one example, are at real risk for developing iron deficiency. And, as a consequence of iron deficiency, iron deficiency anemia. The program, therefore, was designed to take these people at very specific risk for deficiency diseases.

I think it is also important to remember that this program was supplementary and certainly must be taken into consideration with other feeding programs, such as the Food Stamp Program. This particular supplementary program allows for the design of specific food packages to address the particular needs of pregnant and lactating women and developing infants and children. And, once again, can take specifically into account the need for such things as iron.

Finally, the program was always designed to be part of a larger program of health care and specifically designed to incorporate the services of the health care facilities of the community.

One of the questions that must be asked at this time has to do with the effectiveness of the WIC Program. From the enactment of this legislation, an evaluation system was mandated. This need for evaluation has continued through the span of the program. In spite of many attempts to evaluate the program, it must be admitted that there are no definitive or conclusive evaluation studies available for the program as a national program as a whole. However, there are many indications, and Mr. Blount has just given one, that the WIC Program has been at least partially effective in addressing problems found in the late 1960's and early 1970's. One

can compare, for example, the results of the early surveys mentioned above with the most recent survey, the national health and nutrition evaluation survey II, which was conducted during the years 1976 to 1980. It can be seen from the second study that the frequency or the prevalence of nutritional anemia and growth retardation has been reduced in comparison to the early survey.

It is also important to use the results of the most recent General Accounting Office [GAO] survey of studies evaluating the WIC Program. I think this GAO study itself acknowledges its many, many faults in providing its evaluation. But, if you look at the data, for example, and look at just one of the indicators, the results of the Centers for Disease Control and the Edozian studies, there is a decrease in the prevalence of anemia in children who participate in the WIC Program. Admittedly, as the GAO report indicates, these studies are not definitive, but I think all of them taken in the aggregate indicate that there has been a definite improvement in the nutritional status with participation in the WIC Program.

Currently, the U.S. Department of Agriculture is awaiting the results of another survey of WIC Program effectiveness and it will be important to review the results of that particular survey in the coming weeks and months.

With respect to the reauthorization of this program, we would strongly urge the WIC Program be continued. We feel it has been effective. We would urge that the WIC Program continue to be a program of prevention rather than treatment. We would favor a program in which the population at high risk for nutritional deficiencies be identified and the appropriate food packages be provided, so that nutritional deficiencies do not result. An eligibility program which would allow administration of the WIC Program only to those people in whom deficiencies were already demonstrated would defeat the purpose of this truly preventive nutritional program. We would recommend that the target population continue to be identified primarily on the basis of their economic status as well as the other risk factors which might indicate an increased likelihood of nutritional deficiency. We would recommend that the WIC Program be reauthorized for the full 4 years.

Senator BOSCHWITZ. It says 3 years in your testimony.

Mr. MAUER. I say 3, but 4 is the one that we would certainly go for.

We do not, certainly, favor a mere extension of the WIC Program for 1 year. One of the real problems in the early days of the WIC Program, and I am well aware of those early days, was the lack of stability due to the lack of a consistent funding pattern. At this time, WIC must be maintained as a stable predictable program within the community. We would also recommend that the WIC Program be maintained with its current independent funding pattern. We do not feel that the incorporation of the WIC Program into a child health block grant would be useful. We have commented in the past that this block grant form with State control would lead to inconsistency of implementation, variability in eligibility requirements from State to State, little, if any, control over the nature of the food package and certainly the lack of an opportunity for ongoing evaluation of the effectiveness of the WIC Program.

For all of these reasons, we feel that the WIC should be continued as a categorical program.

In summary, we feel this program has been effective, and we certainly support its reauthorization and continuation. And, once again, the American Academy of Pediatrics thanks the committee for the opportunity of making these comments about the reauthorization of the WIC Program.

Senator BOSCHWITZ. I would say to the other witnesses that we will put their remarks into the record as if read and that they should address things that the earlier witnesses have not, just from a standpoint of time.

I note in some recent articles in the newspaper that the administration policy with regard to WIC has been charged with increasing infant mortality. Is there any credible evidence of that, Doctor?

Dr. MAUER. I think there are two points to be made. In the first place, increases in infant mortality would follow by some months and perhaps even years a real reduction in nutrition being available to the mothers.

Second, review of the data that have been used to support this contention, indicates that there is no statistical validity to any indication that there has been an increase in infant mortality at this time.

Senator BOSCHWITZ. You answered in one answer both of my questions. Thank you. One moment, I have another one:

If we have to reevaluate the priority system with regard to nutritional risk for the program, would you suggest having the program serve children only up to 2 years of age? Currently, as you know, children up to 5 years of age are served.

Dr. MAUER. There is no question that the period of greatest risk is during the period of greatest growth of the infant. But I would remind you that between 2 and 5 there continues to be growth and certainly a very real need for good nutrition. And if you ask the question if that is all we can do, would that be better than nothing, I would have to say yes. But would I recommend the other? Absolutely not.

Senator BOSCHWITZ. But that is the critical period, the first 2 years?

Dr. MAUER. The first 2 years is certainly more critical because of the more rapid rate of growth.

Senator BOSCHWITZ. Let me ask you another question. If we have to exercise considerable physical control, or might feel that we must, where should the program be targeted?

Dr. MAUER. Well, I think the program should be targeted as it is targeted; that is, as a preventive program for a population at high risk.

Senator BOSCHWITZ. Where should it be targeted for purposes of either slowing its growth, in the event that we wish to slow the growth of the outlay? What parts of the program would you target?

Dr. MAUER. Well, I would respond to this by saying that I do not think you can take this program in a vacuum. You have to ask if we cut back on this program, are there likely to be increased costs some other place. And I think this is what concerns all of us. If you cut back on this program, we are going to be seeing increased costs in terms of health care, not health promotion. I have been asking

this question around the country. In a large city hospital in Cincinnati, where I was during the 1960's, we used to see two or three times a month infants come in with severe iron deficiency anemia, less than five grams percent, which is very severe and, in fact, life threatening.

This happening has just disappeared. Pediatricians all around the country ascribe that essentially to the availability of the WIC Program in that population in which we used to see this severe anemia.

Now, I think the costs of the WIC Program are more than compensated for by a reduction in the costs of health care.

Senator BOSCHWITZ. I must—I do not argue with you, Dr. Mauer. I want to tell you that when proponents of virtually any program come in, they make a similar case in a somewhat different way. We spend more in education, we will make taxpayers more productive and we will get more money back in return. If we spend more on whatever the program is dealing with food, we will achieve the results that you are speaking of. That does not mean that I disagree with you, but is this a program that you find, let us say we have the Food Stamp Program, the School Lunch, the School Breakfast Program, some of the programs for feeding the aged, is this program particularly productive in regard to reducing medical costs rather quickly?

Dr. MAUER. Let me just answer this way: You can save a great deal of money if you own an automobile by not changing the oil, not changing the grease, not doing that kind of preventive maintenance, but it is going to get you sometime. And this is exactly what we feel about this program. This is preventive maintenance. But, unfortunately, unlike immunizations, the minute you stop supplemental feeding, malnutrition is going to come back. And it is going to come back just as sure, I think, as one can predict anything. We feel this is absolutely essential preventive maintenance for a group of mothers and infants in this country who are at high risk for the development of malnutrition.

Senator BOSCHWITZ. Well, my number just came up with respect to my automobile, and I think I am going to have you over to talk to my son.

Are we witnessing a decline in the nutritional status of our Nation's infants and children, and, if so, how is this translated into health terms? You may have answered that.

Dr. MAUER. Well, as a matter of fact, I have. I have said, remember the second HANES study, conducted from 1976 to 1980, compared to the first study, shows clearly an improvement in the nutritional status. Since the 1980's, although, there may be some regional differences, there has been continued improvement. I think this improvement has been in direct relationship to increased utilization of food stamps; the WIC Program, and other supplemental food programs.

Senator BOSCHWITZ. Thank you very much.

I think we will now go on to Dr. Stanley Gershoff, dean of the School of Nutrition, Tufts University.

STATEMENT OF DR. STANLEY N. GERSHOFF, DEAN, SCHOOL OF NUTRITION, TUFTS UNIVERSITY, MEDFORD, MA

Dr. GERSHOFF. Thank you very much. I will cut down on my comments. I know you are rushed for time and the two gentlemen who preceded me have said many of the things that I wanted to say.[1]

I think that one of the things that is so intriguing about the WIC Program is that it is unique among the food assistance programs, in that it not only provides food, but provides health care and nutrition education.

We feel confident that there are demonstrable health benefits from this program and that they have been documented.

The studies that I was associated with, which were done by Eileen Kennedy in Massachusetts, not only demonstrated health benefits but also indicated using a fairly conservative estimate that for every dollar put into WIC, probably about $3.1 in hospital costs were saved.

We find it disconcerting that in governmental reports there frequently is a tendency to use adjectives which are poorly selected. In the recent report of the President's Task Force on Food Assistance, it was reported that there was hunger in America, but it was not rampant. I feel that the GAO report does the same thing. It clearly documents health benefits and then goes on to state over and over again that the data are inconclusive. And I suppose that is not totally unreasonable, but the fact is there are enough data to make a presumption that the WIC Program is effective. I think if additional data are produced, they will not only provide more information concerning WIC's effectiveness, but point up ways in which it may be improved.

I have been delighted through the years that support for the food programs have been bipartisan in nature. I had the privilege of chairing the panel on Systems of Delivery of Food and Money for Food at President Nixon's White House Conference on Food, Nutrition and Health. A major recommendation of our panel was that money be authorized for annual evaluation, research and development of child feeding programs. Not only was this recommendation accepted, but a year later, the USDA reported that from its inception, a comprehensive evaluation would be included in the WIC Program. So it is rather disappointing that there is so much criticism, and I think it is valid criticism, that sufficient studies have not been done. I would like to point out that these do not have to be super expensive. Dr. Kennedy's studies cost $4,000 from the USDA, and also the voluntary support of our faculty and some school funds. It is clearly difficult to evaluate a program in which there are 1,500 WIC projects administered by 84 State agencies and Indian tribes. I too would like to point out that I am very concerned about recent recommendations that we go to block programs.

Senator BOSCHWITZ. We are not going to go to block programs in WIC.

Dr. GERSHOFF. At any rate, I do feel that this program should be given continued support. I feel, as the others do, that we can either

[1] See p. 142 for the prepared statement of Dr. Gershoff.

pay now or we can pay later. If we pay later, it is going to be more expensive.

Senator BOSCHWITZ. Perhaps any of the witnesses can respond to this, "recent statistics from the Department of Agriculture indicate that very few States have concentrated their WIC Programs on the highest priority participants, pregnant women, lactating women, and small infants, priorities 1 and 2." What can be done to provide greater targeting of benefits at these at greatest need? I must say that I have been given a chart here about priorities 1, 2, 3 and 4 and 5 and 6. And it is a chart that I cannot follow so well. What are the priority number 1 then, is pregnant women and lactating women? 1, 2, 3. That's all in the first priority.

[Chairman conferring privately with staff.]

Senator BOSCHWITZ. What are the lower priorities then, older children? Are you familiar with this?

Dr. GERSHOFF. What you just said boggles my mind. I cannot imagine that they have been concentrating on older children. Those data just do not sound right to me.

Senator BOSCHWITZ. Are you familiar with it?

Dr. MAUER. I would agree; I do not think they sound right to me either, but I think you have got to realize that again, children of 1 to 5, for instance, that you would place in a lower category, I think clearly need to be served. It is the time of nutritional risk.

Dr. GERSHOFF. Children after 5, are covered by the various school programs. But I feel that children 1 to 5 are terribly vulnerable. I have been quite concerned, in Third World countries where everybody, for very good reasons, are most concerned about the newborn infants, and children 1 to 5 are frequently neglected.

Dr. MAUER. I think there is an implication here that these lower priorities are being served instead of the high priorities. I think what it is, all of these priorities are being served to the degree that it is possible. But I think, again, the 1 to 5, that is the critical period. It is the weaning period, and a period of great nutritional risk. And between 1 and 2 there is still a lot of growth going on.

ADDITIONAL QUESTION SUBMITTED TO DR. STANLEY N. GERSHOFF BY SENATOR JESSE HELMS

You made reference to a study by Dr. Eileen Kennedy which you described as showing that for every dollar spent on WIC a savings of about 3.1 dollars in hospital care was achieved. This study is frequently cited, and frankly, it seems to me that its findings have been exaggerated. For this reason, I asked the Congressional Research Service of the Library of Congress to assess the cost-benefit analysis in the Kennedy study. The Congressional Research Service found:

"This evidence should however, be considered neither conclusive nor generalizable to the program's benefits nationwide. Since the study was confined to the State of Massachusetts, it would be inappropriate to infer that the WIC program would have the same effects nationwide. Finally, the study does not support one specific cost-benefit ratio for the WIC program, even in Massachusetts. The authors do not make such claims in their analysis."

Isn't the "three-for-one" statement in your testimony an overstatement of the findings from this study?

[The following letter from Dr. Gershoff in answer to the above question was received by the committee:]

TUFTS UNIVERSITY,
Medford, MA, June 21, 1984.

Mr. WARREN OXFORD,
Clerk, Senate Committee on Agriculture, Nutrition and Forestry, Washington, DC.

DEAR MR. OXFORD: My response to Senator Helms' request on June 13 follows:

In my testimony before the Senate Subcommittee on Nutrition I stated that in Dr. Eileen Kennedy's Massachusetts studies she was able to demonstrate that the WIC Program was cost effective and that in her calculations for each dollar spent as much as 3.1 dollars could be saved in hospital expenses. It is true that savings might vary in different parts of the United States and would certainly if different calculation assumptions were made. Thus some analyses might provide ratios higher than 3.1 to 1 while others might be lower. In any case all ethical issues aside I am convinced that the WIC Program unlike many other assistance programs is cost effective.

Dr. Kennedy's analysis was based on the following types of information:

1. She collected a large amount of data including birth weights of their babies on pregnant women in the WIC Program and women not in the WIC Program but eligible for it. Many of these women were on the waiting list for WIC.

2. She calculated from published data the average daily hospital charge for a low weight baby in 1976 to be $450.

3. From published data she obtained estimates of the number of days low weight babies of different size spend in a hospital. Thus, for example, an average low weight baby 2001-2500 grams spends 11.15 days in a hospital while those 1001-1500 grams average 44.6 days.

After controlling for a number of variables Dr. Kennedy found that in her study groups the predicted incidence of low weight babies was 3.4% in the WIC group and 14.6% in the non-WIC group. Since she also could predict the weights of the low weight babies she could estimate the length of time they would be hospitalized and the cost of the hospitalization. When she compared the costs of hospitalization of the low weight non-WIC babies to the costs of the WIC program plus the hospitalization costs of the smaller number of low weight babies which WIC participants could be expected to have she found a ratio of 3.1 to 1.

She did not include physician charges which were small compared to hospital costs and she did not attempt to cost our long-term medical costs. Since it is well known that low weight babies have more physical handicaps than normal weight babies and therefore require more medical and other costs as they mature inclusion of such information would have increased the apparent cost benefits of the WIC Program. She also did not include possible post natal benefits of the WIC Program.

I believe that since 1976 medical costs have increased at a faster rate than WIC benefits so that recalculating Dr. Kennedy's data today might provide a higher ratio than 3.1 to 1.

Studies such as these are important to do and since they are relatively inexpensive there is justification for supporting them so that legislators and other decision makers can better assess the value of programs they are asked to support.

Sincerely,

STANLEY N. GERSHOFF.

Senator BOSCHWITZ. Young lady, did you want to say something?

Ms. DIMPERIO. [Inaudible]

Senator BOSCHWITZ. Say that again, please.

You are Eloise or Diane?

Ms. DIMPERIO. I am Diane. I was going to answer the question, but I discuss it in my testimony.

Senator BOSCHWITZ. OK, we will put it off until that time.

All right, Doctor, now we will turn to Dr. Walker, the commissioner of the department of public health, up in Boston. I assume you gentlemen know one another.

STATEMENT OF DR. BAILUS WALKER, COMMISSIONER, DEPARTMENT OF PUBLIC HEALTH, BOSTON, MA, ACCOMPANIED BY DR. BERNARD GUYER, DIRECTOR, FAMILY HEALTH SERVICES

Dr. WALKER. Mr. Chairman, I am accompanied by Dr. Bernard Guyer, who is head of the division of family health services, Massa-

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chusetts Department of Public Health, and has direct day to day responsibility for the WIC Program.[1]

We would like to do two things to aid you in your deliberations on reauthorization of the WIC Program. First, we would like to review very briefly the 1983 Massachusetts Nutrition Survey, which has been referenced frequently during the past few months. Second, I would like to discuss very briefly the programs that were implemented in Massachusetts as a respond to those findings.

Third, we would like to discuss Massachusetts' experience and other evidence relevant to the need for a reauthorization of WIC.

In 1983, Massachusetts was faced with reports from pediatricians of clinical cases of malnutrition among children. Additionally, many individuals were concerned about the impact of Federal cuts, unemployment and the reemergence of hunger and homeless in our State. The Massachusetts Legislature raised some very serious questions about these reports, and, in response, provided funds for us to conduct a study to determine whether or not there were children in the Commonwealth of Massachusetts who were malnourished. What did we find?

I will not go into the methodology. It is laid out in our report. We found that roughly 9.8 percent of the children had a height-for-age below the 5th percentile, nearly double the expected number. Low height-for-age may reflect chronic, long-time nutritional deprivation or reduced genetic potential for growth.

We also found that 3 percent of the children had weight-for-height below the 5th percentile. In this population it would have been extremely surprising to identify a high level of wasting due to acute malnutrition. There were children in the group diagnosed as "failure-to-thrive," and this is an important population that certainly requires clinical services.

We discovered some 12.9 percent of the children to be anemic. Anemia is always abnormal and most often related to iron deficiency.

Although we had only a small group of Asian children, including Southeast Asian immigrants, they appeared to be a particularly high risk group. Some 15.7 percent were low height-for-age and, roughly, 11.8 percent were acutely undernourished. Since this is a small group, it does not bias the overall findings of the Massachusetts survey.

The poorest children had the highest percentage of low height-for-age. For those below 100 percent of the poverty level, the proportion was 10.5 percent compared to the observed 5 percent for children above 200-percent poverty.

Senator BOSCHWITZ. That is an interesting statistic. I noticed earlier in your testimony that you point out that white children were worse off than either black or Hispanic children. Is that indicating that the people, the poorest children are not particularly black and Hispanic?

Dr. WALKER. [Conferring privately with Dr. Guyer.]

Dr. GUYER. Yes.

Senator BOSCHWITZ. Pardon me; go ahead.

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[1] See p. 144 for the prepared statement of Dr. Walker and Dr. Guyer.

Dr. WALKER. In addition to these findings about the extent of malnutrition in the group of children in highest risk, we also obtained information on how many of these children were receiving public assistance. Using family income levels as an approximation of financial eligibility, our data indicated that many of the sample children were not receiving benefits, even though they seemed to be eligible for financial assistance.

Eighteen percent who appeared financially eligible for aid to families with dependent children were not obtaining the cash payments. And 54 percent who were financially eligible for the WIC Program were not enrolled.

This last finding is not surprising, and is actually a high participation rate when compared to WIC's statewide participation rate.

We are absolutely convinced that the findings of the Massachusetts nutrition survey indicate a significant nutrition problem among low-income children in the Commonwealth.

The findings are consistent with the communicable disease center's surveillance data from other parts of the country showing that poor children have a much higher level of low height-for-age and anemia.

The data are consistent with an enormous body of literature that shows that poor children grow less rapidly than wealthier children of the same genetic stock and that as populations grow more affluent, their children get taller.

Let me now comment very briefly on the Massachusetts program for undernutrition.

Faced with the findings of the Massachusetts nutrition survey, the legislature and the Governor developed an emergency supplemental budget package of about $6.6 million for the State fiscal years 1984 and 1985 to address these problems.

These funds included support for outreach efforts by the department of public health and of the department of public welfare to enroll more eligible families in WIC, food stamps, EPSDT, and the AFDC programs.

State funds to expand WIC participation by some 20,000 persons, including an additional 10,000 high-risk children.

Specialized nutrition programs for Southeast Asians.

Additional funding for specialized activities, such as, failure-to-thrive programs, clinical services for the prevention of low birth weight, and increased efforts to prevent childhood lead poisoning.

We agree with other speakers who found WIC to be a very effective program for addressing malnutrition in the Commonwealth. And we certainly agree with the comments of the other speakers.

We decided to channel our maternal and child nutrition efforts through the WIC vehicle for several reasons.

The WIC Program targets food nutrition education to the groups most vulnerable for undernutrition; for example, pregnant, low-income women and children. WIC is not merely a supplemental food program, it is a health program with goals and objectives related to the reduction of low birth rate and to the promotion of optimal growth in developing young children.

We believe that WIC is the best available mechanism for us to reach this target population and to address their nutritional concerns. As a State agency, we now have some 10 years of experience

administering the WIC Program. We believe that administrative and clinical systems are in place which can rapidly funnel additional funds to the populations in need.

Let me comment briefly on the funding issue. We believe that the Federal Government must expand its commitment to this important preventive health program. We urge funding for the WIC Program to be, at a minimum, $1.36 billion in 1984, $1.55 billion for 1985, and $1.70 billion for 1986.

We think there are three additional reasons which are relevant to this committee's concerns about nutrition.

First, for historical reasons, the Massachusetts WIC Program always served a low proportion of eligible population. This was confirmed by the findings from the nutrition survey that 15 percent of the entire sample were both financially eligible and had nutritional indicators but were not enrolled in the WIC Program.

Second, while the U.S. Department of Agriculture has indicated a commitment to equity funding, that is, equalizing participation levels across the States, this can only be achieved fairly by an adequate appropriation increase so that no State is penalized.

Third, in thinking about the better targeting of WIC benefits, we believe that this committee should carefully consider the preventive aspects of WIC as well as its therapeutic aspects. When the WIC Program is underfunded, the priority system dictates that children who are already showing signs of malnutrition receive WIC benefits before those who are at risk of malnutrition but who do not yet have signs. Thus, at low levels of funding, the WIC Program acts as a treatment program rather than a program of prevention. While this is important, we feel that expansion of the WIC Program and adequate national funding will allow us to retain this important preventive character which was intended in the original legislation.

In summary, we again join other members who have urged you to increase funding for WIC which, at a minimum, ensures that every high-risk mother and child, regardless of State of residence, receives sufficient nutritional food counseling.

Thank you, Mr. Chairman.

[The following material was received by the subcommittee:]

RESPONSES TO ADDITIONAL QUESTIONS SUBMITTED TO DR. BAILUS WALKER, JR., BY SENATOR JESSE HELMS

Question 1. Would you outline what percentage of WIC recipients in Massachusetts fall into each of the six priority categories?

Answer. In May of 1984, the distribution by priority in Massachusetts was:

Priority I: 25%.
Priority II: 12%.
Priority III: 28%.
Priority IV: 2%.
Priority V: 28%.
Priority VI: 5%.

Question 2. You seem to oppose further targeting of WIC program benefits to those who are in the greatest need—pregnant women, breastfeeding mothers, and infants at nutritional risk—and you spoke of the need to maintain the preventive health aspect of the program. Isn't targeting on these highest risk groups preventive?

Answer. With inadequate funding, WIC is only able to service the top three priorities. Any woman, infant, or child in those categories is already exhibiting specific health problems associated with inadequate nutrition. Consequently, if the WIC pro-

gram is only able to serve priorities I-III, it is essentially a treatment, i.e., intervention after the emergence of a problem program and not a preventive program. The intent of Congress in the design of the special supplemental food program was also to "prevent the occurrence of health problems." The greatest thrust of prevention within the WIC program comes within the priorities IV, V, and VI. My testimony was intended to reinforce the need for adequate funding to serve all priorities. It was not to suggest an either-or situation. WIC continues to be one of the most cost-effective and positive programs to serve this population. The program works, the priority system works, and we would like to see it well funded.

Question 3. Did your 1983 Massachusetts Nutrition Survey make any assessment of the nutritional status of individuals *compared* to any earlier time period? If not, how do you assess whether existing programs are addressing the needs of your citizens? In other words, how do you know whether the nutritional status is improving or deteriorating?

Answer. The 1983 Massachusetts Nutrition Survey (MNS) was a point-prevalence study designed to estimate the prevalence and severity of gross nutritional deficiencies among low-income children who use community pediatric health care facilities in the state. The study describes the status of the sampled population at a single point in time. The study was not designed to determine whether or not the nutritional status of this population was changing but rather to evaluate whether there was legitimate cause for concern regarding the nutritional status of the low-income, preschool population in Massachusetts.

Comparison of the MNS data with previous point-prevalence studies is currently being undertaken but is being hampered by the following methodological differences: sampling frame, targeted populations, and reference standards. However, initial analysis indicates that the prevalence of chronic undernutrition has not decreased significantly.

In order to determine whether or not the nutritional status of the population is changing, longitudinal surveillance is required. Even trend data of this type has limited value in conclusively establishing the efficacy of nutrition programs. It is, however, a valuable tool for identifying changing needs and planning appropriate interventions.

Question 4. Could the results of your survey, showing "chronic malnutrition" among low-income children in Massachusetts, indicate that existing health and nutrition programs in Massachusetts are not being sufficiently targeted to those in greatest need?

Answer. The primary purpose of the MNS survey was to determine whether or not a problem existed and to describe the problem if one was found. The analysis is limited to describing the sample and the nutritional status of the sample population. It is not possible to establish causal relationships from the data. The data can be used, however, to identify areas where increased targeting of resources could enhance the status of preschool children.

Question 5. What financial contribution, if any, does Massachusetts make to the WIC program?

Answer. In response to the MNS survey, a Supplemental Budget Act was passed on December 22, 1983, allocating $2,300,000 for the WIC program; $3,400,000 is proposed for nutrition-related services for FY '85 of which approximately $2,900,000 will be allocated for WIC services. It is critical to bear in mind that the state allocation is intended only as an interim step to provide additional resources in response to the critical need identified by the nutrition survey.

Question 6. Why has Massachusetts not participated in the ongoing nutrition surveillance system conducted by the Centers for Disease Control?

Answer. Like 32 other states, Massachusetts historically has not participated in pediatric or prenatal surveillance conducted by CDC. Maternal and Child Health priorities have focused more on local program refinement and strengthening of interagency service ability than on surveillance. CDC's fairly long turn-around time and format for data presented compounded our reluctance to use this system.

In the past year, the MCH and Evaluation Units have re-examined the tools used for data collection. In addition, there has been a real sensitivity to the need to collect anthropometric and hematological data routinely, especially on low-income women and children. We think that some of the positive points to the CDC system are to identify nutrition disorders in the target population, provide local data for program planning, and identify local sites where measurement errors warrant checks for quality control.

Massachusetts will be consulting with CDC and other states in the New England region who are on the system.

Senator BOSCHWITZ. Thank you very much, Dr. Walker. Does your colleague have anything to add? Do you feel that we have funded the program at the level that you have suggested for 1984 here in the Senate? Do you feel that we are adequately funding the WIC Program at the present time?

Dr. WALKER. I think there is a need for additional support, as we have pointed out in our testimony. We are especially concerned about the flexibility, as pointed out by the representative from Missouri. We believe it is important that we have as much flexibility as we can in administering these programs. We would certainly agree with what has been said earlier that you pay us now or you pay us later. I think the later cost would be far higher than the amount that we are now spending.

Senator BOSCHWITZ. There is a good deal of variation from State to State, apparently, on how nutritional risk is defined. GAO has suggested a uniform approach to that definition. What are your thoughts about that?

Dr. WALKER. Let Dr. Guyer, who is our specialist in this area, address that.

Senator BOSCHWITZ. Would you identify yourself, please?

Dr. GUYER. I am Dr. Bernard Guyer, director of the division of family health services of our department of public health. I do not know the specific proposals on the assessment of health and how they vary from State to State. My impression is that WIC regulations are very strict and really gave the States an enormous amount of direction on how to assess children.

Senator BOSCHWITZ. May I ask, with the limited resources of WIC, what do you gentlemen feel about 20 percent of the funding being used for administration?

Dr. GUYER. I think we are one of those States that has underspent its WIC Program in the past, and that has been a big problem. I think that our WIC director and our WIC staff feel that we need to increase our spending and do a better job in our WIC Program. The 20-percent figure is one that has been used traditionally. We have not even gotten up to that level, so it is a bit hard for me to respond to the comments that were made earlier. But I think it definitely has to be a minimum level.

One of the odd things about the WIC Program though is the 20-percent administration cost, which, in other kinds of programs, really is not administrative cost. These are program costs. Nutrition is considered to be administration in the WIC Program.

Senator BOSCHWITZ. Mr. Blount, you referred to that a little earlier. What is the breakdown administratively and then educationally in that 20 percent?

Mr. BLOUNT. Again, Senator, that would vary, and I would be glad to go home and give you more specifics later on, and gather it from the States, if you would like. USDA probably has it. But may I suggest——

Senator BOSCHWITZ. We would appreciate your doing that.

Mr. BLOUNT. Just as a direct answer now, so as not to avoid your question, 75 or 80 percent of our administrative costs, using the generic administrative cost, is personnel cost. You are talking about nurses and nutritionists at the local health agencies, particularly. They are doing health assessment and nutrition education. The

large majority of that 20 percent would be for direct service benefits to the client, as we define it, and I think that is what the other testifiers have said. I will give you better information on that.

Senator BOSCHWITZ. Let me ask Dr. Gershoff, are you a doctor, Doctor?

Dr. GERSHOFF. I am a Ph.D. doctor.

Senator BOSCHWITZ. Dr. Walker is the same?

Dr. WALKER. Yes.

Senator BOSCHWITZ. Maybe I will direct my question a little bit more at Dr. Mauer. In dealing with infant health, the WIC Program, obviously, focuses on nutrition and health care to improve the baby's birth weight, among other goals. However, can the WIC Program compensate for other sociological factors, such as teenage pregnancies, close spacing between births? I must tell you I am not personally aware if teenage pregnancies result in smaller babies.

Dr. MAUER. Well, there is an association, but I think the question is which among the factors influencing pregnancy in the teenager really accounts for the smaller babies.

Senator BOSCHWITZ. Let me finish the question. Maybe I should not have interrupted myself. However, can the WIC Program compensate for other sociological factors; such as teenage pregnancies, close spacing between births, drinking, smoking and so forth?

Dr. MAUER. One of the things the WIC Program has had as one of its goals, in fact, is to make this part of a larger system of health care. And one of the benefits of the WIC Program for the pregnant woman, whether she is teenage or older, is that it gets that woman into a health care system as early as possible. Her benefits are derived from coming into the clinic and receiving the kind of counseling about smoking and drinking and other aspects of health care. By itself, food is not going to compensate. But the way WIC is set up as part of a larger system of health delivery, in fact, it is an important part of making the overall care of the pregnant woman better and the outcome of that pregnancy better.

Senator BOSCHWITZ. So you are talking to women about drinking and smoking and that kind of stuff too?

Mr. BLOUNT. Most assuredly, Senator. In fact, one of the things——

Senator BOSCHWITZ. That is not part of the tobacco lobby, is it?

Mr. BLOUNT. Well, when I said that in this particular hallowed place—no, seriously, we do. In fact, one of the things we were looking for in our outcome of pregnancy testing was the effect of smoking and such as that. We do show that on some of our data, and I would be glad to share that with you a little bit more. But, certainly nutrition education, as a direct client service, that is being made much clearer. We find, and I think general national education climate is that more mothers are conscious of those things during pregnancy than they used to be.

Senator BOSCHWITZ. My general impression is that I see more about that than I did in the past. Maybe it is because I am here rather than just in business. But it seems to me I hear more of that today than I did.

Mr. BLOUNT. I think WIC and the whole matter of prenatal counseling and nutrition education, the good prenatal care that is being

done in the health arena, generally, is making all of us more conscious of those effects on pregnancies.

Senator BOSCHWITZ. We are going to ask you that, Diane. Do you also have that in your testimony.

Ms. DIMPERIO. No, I do not.

Senator BOSCHWITZ. If I do not ask you, answer it anyway, OK?

Dr. GERSHOFF. You have alluded, Senator, to problems of pregnancy, drinking, and smoking among teenagers, I would suggest that these important problems provide evidence that there are needs for programs other than WIC that start before WIC.

Mr. BLOUNT. Most assuredly, Doctor. I think, and Dr. Mauer and others have alluded to it here, I think one of the great strengths of the WIC Program is that it is an adjunct to health generally. And what WIC has done in preventive health and public health, I think when we look at it a few years from now, we are going to really champion the cause that this was the beginning of a new awareness and new involvement in preventive health, particularly during pregnancy. WIC by itself does not do those things. I would be the first to admit that. But WIC, I think, has been the incentive. I think it has been the catalyst for a lot of things happening.

Senator BOSCHWITZ. Anybody else? We are going to move on to other witnesses, unless one of you gentlemen have something to add. We thank you for coming, and coming from afar, from Tennessee and Missouri and Boston. We find your testimony valuable. I thank you very much.

[Chorus of "Thank you."]

Senator BOSCHWITZ. We are now going to call on Eloise Jenks and Diane Dimperio. Am I saying that right? Who tried to testify out of her turn here.

Mr. BLOUNT. If we did not move on, she was going to move us on.

Senator BOSCHWITZ. That is right.

Mr. BLOUNT. She is a fine young lady.

Senator BOSCHWITZ. Where is Bob Greenstein? He has cut off all his hair and you hardly recognize him. Why do you not come on up, Bob, and join us.

I see Mr. Greenstein has relatively brief testimony today, only 12 pages. That is pretty brief. [Laughter.]

All right, Eloise and Diane. Now, I respectfully request that you direct your testimony at things that have not been covered. Quite frankly, these hearings sometimes become somewhat repetitious. If you feel that a point has not been emphasized enough, I certainly respect that. So, with that, off we go.

STATEMENT OF ELOISE JENKS, EXECUTIVE DIRECTOR, WIC PROGRAM, PUBLIC HEALTH FOUNDATION OF LOS ANGELES COUNTY, MONTEREY PARK, CA

Ms. JENKS. I am Eloise Jenks, the director of the Public Health Foundation WIC Program in Los Angeles. And I am very happy to have this opportunity to address the committee about WIC reauthorization.[1]

[1]See p. 150 for the prepared statement of Ms. Jenks.

I am a registered dietitian and nutrition educator. I have directed the PH WIC Program for 8 years.

Senator BOSCHWITZ. What is "PH"?

Ms. JENKS. PH is Public Health Foundation.

Senator BOSCHWITZ. That is all right.

Ms. JENKS. We have grown from serving 2,500 clients in 1976 to serving 23,000 women, 20,000 infants and 4,400 children in March of 1984.

We may be one of those agencies that is targeting WIC benefits as some have suggested.

Senator BOSCHWITZ. When does an infant become a child?

Ms. JENKS. At its first birthday.

Senator BOSCHWITZ. Oh, is that right?

Ms. JENKS. Yes. From the perspective of a large urban WIC Program, I am glad to tell you that the WIC Program is providing nutrition services to a very high risk multiethnic population. Clients are being served in English, Spanish, and several Chinese and Southeast Asian dialects in our program.

We recently surveyed our participants for their comments on WIC's nutrition education; 91-percent say the WIC Program has taught them how to feed their families better; two-thirds say the WIC Program helped them to decide to breast feed and how to feed their babies properly.

As you have heard in other testimony, the term "administrative costs" includes many direct service expenses, including nutrition and health education, dietary and health assessment, nutrition counseling, referral of clients to drug treatment, school and social services for the adolescent mother, referrals concerning child neglect and abuse. Nutrition and health surveillance, quality assurance, vendor education and vendor monitoring are all essential administrative costs.

In California, we have a very strong vendor monitoring and control system, which helps eliminate fraud and abuse and saves WIC food dollars. A decrease in administrative funds would jeopardize the ability for California and other States to control the cost of the WIC food package.

Senator BOSCHWITZ. Are you up around the 20 percent, Eloise?

Ms. JENKS. PHF is a local agency. We spent 99.6 percent of our adminsitrative grant last year.

Senator BOSCHWITZ. Could you tell me the nature of the WIC Program; where do you operate out of?

Ms. JENKS. In Los Angeles our WIC Program is serving clients in 55 sites throughout three of the areas of the county of Los Angeles. There are other WIC Programs serving other parts of the county of Los Angeles.

Many of our clients come from the County of Los Angeles Department of Health Services and are enrolled in county health facilities.

Senator BOSCHWITZ. What kind of facilities are these 55? Are they storefront?

Ms. JENKS. Some of them are health centers, but most of them are churches, recreation centers, YWCA's where we could get room and space for serving all these people.

Senator BOSCHWITZ. Do you pay for that room and space in some instances?

Ms. JENKS. We are paying some rent for about 25 percent of the sites.

Senator BOSCHWITZ. You are the director of all that?

Ms. JENKS. Yes.

Senator BOSCHWITZ. Pardon me for interrupting.

How many WIC people——

Ms. JENKS. How many staff or clients?

Senator BOSCHWITZ. Do you have a normal site.

Ms. JENKS. Staff or clients?

Senator BOSCHWITZ. Staff.

Ms. JENKS. On a return clinic, we would have about nine staff people and we would serve about 300 WIC clients on a given day.

Senator BOSCHWITZ. Um-hum. Nine staff people paid?

Ms. JENKS. Nine paid staff people.

Senator BOSCHWITZ. How many people do you have all together?

Ms. JENKS. In our program?

Senator BOSCHWITZ. Yes.

Ms. JENKS. Paid staff people, about 175 or 140 full-time equivalents.

Senator BOSCHWITZ. You have 55 places.

Ms. JENKS. Right, and the staff are traveling teams and they go to all the sites.

Senator BOSCHWITZ. They are not open all the time?

Ms. JENKS. No. Some of the sites that have a smaller population, may have a WIC clinic twice a month. Some sites are open 3 days a week, depending on the population density.

Senator BOSCHWITZ. I understand.

Ms. JENKS. The highest risk clients; that is, pregnant and breastfeeding mothers and infants with medical/nutritional problems require individual care and frequent contact with the WIC staff. This means that it is more expensive to serve the higher risk client. The highest risk client, of course, benefits the most from WIC services and ultimately saves the most health care dollars.

I want to give you an example of the risk levels of the clients served by our WIC Program. Last Wednesday, I took a visitor to the Edward R. Roybal Comprehensive Health Center in east Los Angeles. The first client we saw was a Hispanic lady whose last baby weighed 2 pounds 7 ounces at birth. We believe that WIC participation will be able to help the client's status during this pregnancy. This lady was not on WIC during her last pregnancy.

At the San Gabriel Valley Multi-Service Center later that same morning, the first client we saw was an 18-year-old who was on WIC during her pregnancy, and had just delivered a healthy baby. This mother is very high risk due to her age and the fact that she does not read or write.

Senator BOSCHWITZ. May I ask you a question?

Ms. JENKS. Yes.

Senator BOSCHWITZ. And please excuse my ignorance.

I asked before, are young women more likely to have smaller children?

Ms. JENKS. Yes, they are; and especially if they have a second pregnancy in their teens.

Senator BOSCHWITZ. Is that right?

Ms. JENKS. Yes, indeed

WIC should be funded adequately to serve all the low-income high-risk women and infants. They are not all being served presently in WIC.

Senator BOSCHWITZ. Are you turning people away?

Ms. JENKS. We are not, but we are targeting all outreach to only the pregnant women.

Senator BOSCHWITZ. If you were to include children up to, not infants, but——

Ms. JENKS [continuing]. Up to age 5, all those that would be eligible by income, diet and the like, we would have a program of about 250,000 clients in my WIC Program in Los Angeles. We are presently serving about 50,000.

Senator BOSCHWITZ. Go ahead.

Ms. JENKS. WIC has proven that it meets a real food nutrition and health need of particularly vulnerable groups in this Nation. I strongly recommend that we get a 4-year reauthorization. I think that we provide very good services to clients, but I think one of the real problems is having to explain over and over again every few months who is eligible for WIC. A longer reauthorization period helps provide continuity of eligibility criteria for WIC.

I think the Congress has been very wise to keep WIC a separate and a preventive program. And we know that ultimately targeting the money in this way reduces the need for tertiary health care expenditures.

Senator BOSCHWITZ. Congress is always wise.

Mr. Greenstein is laughing. He knows us better than I do.

Ms. JENKS. In summary, I feel that WIC should be maintained with USDA as a separate, categorical program. The current reauthorization should be for at least 4 years. The proportion of costs in food and services should be maintained for program integrity. The program should be authorized to serve pregnant, breastfeeding and post partum women, infants and children to 5 years of age.

Senator BOSCHWITZ. That is very helpful testimony. It gives me a little different perspective than the other folks testifying. Maybe once during the course of the summer we should visit one of the WIC Programs. I am sure there are facilities in Minnesota.

Ms. JENKS. You would love to see a WIC Program. WIC is very exciting. Every day you can see people being helped and making progress in their lives and their health status and nutritional status. And I am sure the Minnesota program would just love to have you. You can come to California, if you would like. I invite you to our WIC Program.

Senator BOSCHWITZ. Well, if you had invited me in December or January, it would be one thing, but now it is spring out there——

Ms. JENKS. And it is spring here too.

Senator BOSCHWITZ. And if you are going to go to Minnesota you certainly go at this time.

All right, let me just read a question, if I may.

I presume you have seen the recent news article in a recent case of program abuse in Los Angeles. According to a news account, State health officials in one of the largest enforcement actions of its kind have suspended 54 physicians in Orange and Los Angeles

Counties from a nutrition program for allegedly submitting grossly inaccurate data to allow patients to obtain food coupons. The State department of health said Tuesday that it suspended the doctors from participating in the federally funded WIC Program after discovering about 4,000 cases [1] in which doctors submitted false blood and weight tests or other inaccurate health information, error rates on tests submitted by some of the doctors was 100 percent, officials said. They said that doctors whose error rate exceeded 20 percent were suspended.

Two questions come to mind from this story. How can we ensure the integrity of the program in the initial screening to be certain that doctors are taking accurate measures. No. 2, do you have means to recoup the money that was obtained from these recipients? I presume not. It would be difficult. How can we recover the Federal money, if any, and would you comment on that? And did we report those doctors to the Los Angeles Medical Society, or whatever the appropriate?

Ms. JENKS. The data was submitted to the State department of health services, and they were the ones who suspended the doctors from the WIC Program for their error data.

We never called it fraud. We called it errors in reported data.

Senator BOSCHWITZ. It sounds like a generous appraisal.

Ms. JENKS. Well, fraud has so many other things involved, and how were we to know exactly what happened in the doctor's office when we were not there. So we definitely did not say fraud. That was a press term.

The number of doctors who were involved were a very small number of the doctors that provide health data about WIC clients. I think this is a very unusual and very small occurrence. It looks like a lot of doctors, but it was actually a very small number.

Senator BOSCHWITZ. How many doctors were involved in your program?

Ms. JENKS. There are 29 out of 1,500 doctors or clinics serving PHF WIC clients.

Senator BOSCHWITZ. Thousands. How many of these 54 physicians, how many people, or how many prospective clients did they submit?

Ms. JENKS. One doctor was serving from 10 to 50 clients.

Senator BOSCHWITZ. I have not read that.

I notice that each one of the doctors involved was Vietnamese?

Ms. JENKS. Not all; most.

Senator BOSCHWITZ. Most. All but one? Well, I am sure that you do not like that, probably like it less than we.

Ms. JENKS. It is a very terrible thing for the clients of the WIC Program, and for all of us. I think one of the things I said in my testimony about the administrative money is there needs to be money for quality assurance.

In our WIC Program, because we serve proportionally so few children, we expect a child's nutritional status to improve. When we found the nutritional status of the child did not improve we did some retesting and found that some of the data was in error.

[1] This is from the newspaper report. Neither the State nor PHF WIC knows where this number came from.

Is there anything else I can answer?

Senator BOSCHWITZ. No, no. I just respond as a member of this committee conducting this hearing, that I do not find that report pleasing. I recall having read about it—now that I read the question. I recall also the fact that most of these doctors were Vietnamese. I would not take that as cause to indict the WIC Program.

Ms. JENKS. Nor all the Vietnamese doctors. Something that we did not understand was happening with the health status of these children, and that was why we retested the data.

Senator BOSCHWITZ. All right. Now we are going to return to Diane, and please interrupt if you have any further comments as we go along, Eloise.

STATEMENT OF DIANE DIMPERIO, NUTRITION COORDINATOR, CAPITAL NCF WOMEN'S CLINIC, GAINESVILLE, FL

Ms. DIMPERIO. My name is Diane Dimperio.[1] I am coordinator of a program in Florida, the north central Florida WIC Program that currently serves 13 rural counties and about 5,000 clients. I was asked to talk about the priority system. As a nutritionist who has worked with the WIC Program for 6 years, I thought, surely, I could do a better job at establishing priorities than some bureaucrats in Washington. Nothing personal. But that was the way I felt about it at the time.

I really tried to make some improvements. I spent a lot of time thinking about it, doing some additional reading and discussing it with my staff and other WIC coordinators. And I will tell you the truth, I really think the priority system, the way it is now, is very good. I wish you knew me well enough to know that if I did not mean that, I would not say it. But I do really think the priority system is good as it is currently established.

I would like to spend some time discussing the priorities because there seems to be controversy regarding the provision of WIC benefits to priorities three through six. I would like to explain why benefits are appropriately targeted when these groups are served.

People seem to feel pretty good about serving priorities I and II. There is a positive emotional reaction to feeding pregnant women and infants. The scientific literature verifies that nutrition during this period is critical because the strucutral components of the brain and other organs are developing at this time. So we all agree that the fetus and infant under 12 months are high risk.

The goal of the WIC Program is not just to increase infant birth weight. My understanding of the WIC Program is that we are trying to improve the nutritional status of the young, in the hopes that they will be healthy, intelligent, and productive for the rest of their life. Structural adequacy of brain cells is necessary for continued functioning, but not sufficient. A child with perfectly developed brain cells needs continued nourishment to maintain them. The ages of 1 to 5 are critical in terms of skill development. Kids that age are developing cognitive, behavioral, motor, and language skills upon which they will build when they are in school. If children are mentally impaired secondary to malnutrition and are unable to

[1] See p. 153 for the prepared statement of Ms. Dimperio.

progress in their development, the work the WIC Program did earlier in their life is wasted.

In order to better explain the situation I would like to discuss anemia, one of the most common reasons children are certified for WIC. Anemia is associated with poor attention span, decreased learning, restlessness, increased susceptibility to infections, poor sleep patterns, and lethargy. These conditions, obviously, are not conducive to learning.

Malnutrition is not like a light switch. It's not like you are either malnourished or well nourished. Nutritional status is a continuum ranging from optimum health to death, with the development of malnutrition representing a series of depletions. For instance, a child who is well nourished with respect to iron has good iron stores in the liver, appropriate blood levels of carrier protein, adequate iron in the blood and in the blood cell and the correct number of red blood cells. Even though growth slows after 18 months, it continues and creates a demand for red blood cell production which requires iron. If iron intake is less than demand there is a depletion of liver stores. The next stage of deficiency is an increase of the carrier protein, then a decrease in the amount of serum iron and so on until you have a measurable decrease in the number of red blood cells. This event is the end stage of this series of depletions and is frank malnutrition. These are the children who are certified for WIC under priority 3. These earlier stages of iron deficiency also represent malnutrition, but we can't afford the tests to identify them. These priority 3 children have documented malnutrition and should be considered at high risk.

I would now like to address priorities 4 and 5. These are women, infants, and children who are at nutritional risk because of dietary inadequacies. These categories represent an attempt to prevent overt malnutrition by identifying it in preclinical stages and detect deficiencies that we don't evaluate in WIC certification.

Lets look at the example of anemia again. The Hanes survey demonstrates that among little boys between the ages 3 and 5 the prevalance of low hemoglobin is about 4 percent. So these would be the children that would be eligible for WIC. If you look at iron deficiency in terms of low serum iron, 14 percent had low levels. Transferring saturation is an even more sensitive indicator of iron deficiency, and using that as a criteria of deficiency we find that 44 percent of the children have unacceptably low levels. It is these more subtle forms of deficiency that we are trying to identify by using diet histories as an assessment tool. If you can catch these nutrition problems earlier they can be resolved more easily and sooner. In terms of dollars it is cheaper because these children will be on the program a shorter period of time. It is perferable hematocrits in the acceptable range, but unacceptable levels of the other indicators, have reduced mental capabilities, that are improved with iron supplementation. This evidence is a compelling justification for the need to identify and treat subclinical malnutrition.

The WIC certification identifies only two nutrition problems: Underweight and anemia. These are common problems but, certainly not the ony nutrition problems that exist. For instance, the HANES study indicates that 51 percent of the little girls between 3 and 5 have inadequate levels of vitamin A in their blood. We can't

afford to test for vitamin A in serum and so the only economical tool we have is a diet history.

A diet history cannot perfectly predict the problems I have just described but it is the only assessment tool we have that is cost effective. It is considered an important part of any nutrition assessment. It is fairly common to define conditions of risk for malnutrition based on dietary data.

Priority 6 is post partum women. It is sometimes difficult to understand why this category should be considered a target group for nutrition intervention. When I first started with the program I had some reservations about this myself. As I learn more about maternal nutrition it became apparent to me that the time to start nutrition intervention on behalf of the fetus is before conception. The ideal would be to certify women for WIC 6 months before they become pregnant. Since this isn't practical the best alternative it to try to maintain good nutrition after the delivery. Some of the most common nutrition problems associated with low birth weight and anemia can be addressed in the post partum period. We also think that participation in WIC by the post partum woman encourages her participation in family planning and thus delays subsequent pregnancies.

The other issue I would like to address is the unmet need. As I mentioned earlier, we operate our program in a 13-county rural area. We have 6,000 clients who are certified for WIC, but each month only about 5,000 of them receive vouchers. Transportation is a major impediment to WIC participation in our area. We have over 1,000 people each month that are WIC eligible who cannot get their vouchers and nutrition education. Since 82 percent of our caseload is in the three highest priorities, we are very concerned about this nonparticipation. Census data from 1980, indicate there are at least 6,000 women and children who may be eligible for the program that we never see in the clinics. This estimate is probably low because the data are old and it is hard to do an accurate census in rural areas. Many of our actual and potential clients live in trailers or small houses on dirt roads or other inaccessible areas and are unlikely to be counted in a census. These isolated women and children often do not own a reliable vehicle or if they do, a family member must use it to get to work. There is no public transportation and most of these families cannot afford a telephone to even try to arrange other transportation. We currently provide service to only one or two cities in each county because it is cost effective. Our travel costs are already high and, to provide services within the budget, we must limit our travel to areas where we can serve a large number of people. If we could afford to travel to smaller towns that have fewer people per site we would increase our case load significantly, with both new clients plus certified clients who would be able to pick up vouchers more often. We suspect that isolated clients who do not receive WIC services are likely to be at higher nutritional risk than those we currently screen for WIC. While the political expediency of maintaining service costs at 20 percent of the food dollar is apparent, as a nutritionist is distressing to me to know that a relatively small increase in the amount of money we use to operate would enable us to meet a

pressing need for improved nutrition in pregnant women and children.

I would like to respond to a question that was asked earlier. It was concerning the ability of WIC to impact on sociological problems such as closely spaced pregnancies, teenage pregnancy and smoking during pregnancy. The prior witnesses indicated that WIC brings people into health care. I would like to suggest that there is, in addition, a direct effect of WIC on some of these problems.

As I mentioned ealier, participation of the post partum woman in WIC encourages utilization of family planning services. So WIC may help to prevent closely spaced pregnancies. The WIC Program cannot prevent pregnancy in teenagers or smokers, but both of these situations require nutrition intervention as an integral component of medical management. Both of these groups of pregnant women tend to be underweight at conception and have poor weight gain during pregnancy. Improving weight gain with supplemental foods and nutrition counseling will increase birth weights of their babies. I participated in one of the studies that was cited in the GAO report. We found that women who smoked and were on the WIC Program had larger babies than the women who smoked and were not on WIC.

Thank you for inviting me here today. I will be glad to answer any questions.

Senator BOSCHWITZ. It was good to have witnesses of the nature of those who appeared earlier before this subcommittee. Those witnesses were very helpful—witnesses of the ilk of Mr. Greenstein. I just let that fall wherever.

It was very refreshing to have both of you ladies and I compliment the staff for bringing both of you here. And I think there would be far fewer questions about the programs that we administer if, at least from the short impressions that I have of both of you, if we had more like you in these various programs. It was very nice to listen to you. It was very nice too to hear the sincerity and the obvious dedication that you have to further improve the health of young women and young children. And that is what it is all about. And I must say that it makes quite an impression, at least, on this Senator, to hear you testify. And, as I talk to my colleagues about the WIC Program, your presence, perhaps as much as your testimony, will be very helpful in influencing me.

So I thank you very much. And I turn to you, Bob, and say that I am a little short of time, to be honest with you. In the event you do not have enough time with me, I would suggest that you come to my office at some future time. Why do you not proceed.

Mr. GREENSTEIN. What I am going to do is go through this, but I am going to skip. I am not going to go through all of it.[1]

Senator BOSCHWITZ. Fine.

STATEMENT OF ROBERT GREENSTEIN, DIRECTOR, CENTER ON BUDGET AND POLICY PRIORITIES

Mr. GREENSTEIN. Thank you.

[1] See p. 161 for the prepared statement of Mr. Greenstein.

I am Bob Greenstein, director of the Center on Budget and Policy Priorities. This afternoon I am here on behalf of both the Center and also the National March of Dimes, which has a long standing interest and involvement with WIC.

I would like to discuss first a new Census report that came out in late February that I think is relevant, because it found in just 3 years, from 1979 to 1982, the number of children below the age of 6 who lived in poverty jumped by 41 percent. And the data also showed that if alternate measures of poverty are used and noncash benefits are counted, the number below age 6 in poverty would jump by 64 percent during this 3-year period.

So, no matter how we measure poverty, the number of young children who are poor has grown by very large proportions in recent years.

In addition to that, the Children's Defense Fund reports that over a fourth of all children in poverty now have no medicaid coverage–an increase since the 1970's; that in recent years there have been increases in over half the States in the percentage of women failing to receive prenatal care or not receiving care until late in pregnancy. And, finally, there is a new study out in just the last couple of months from the public health service which shows that 10 to 15 percent of infants of migratory workers and certain rural poor are growth-retarded in relation to dietary deficiencies, and that one of every eight black infants is born at low birth weight.

Of course, as we know, low birth weight is connected with infant mortality and, unfortunately, we in this country still have a higher infant mortality rate than most any other Western industrialized countries.

Senator BOSCHWITZ. Excuse me. To what do you attribute that? I have heard that stated.

Mr. GREENSTEIN. I am not sure I am an expert on exactly what causes that. Clearly, we have a particularly high infant mortality rate among blacks and among people who are poor. That probably, in part, relates to both not being that widespread and universally available for people who are low income in this country.

Senator BOSCHWITZ. I notice the gentleman from Boston pointed out that apparently in his testimony he noted that white children were of the larger percentage. He said 9.1 percent overall, and that 11.7 percent of the white children were underweight or small in size. That surprised me.

Mr. GREENSTEIN. The figures are deeply disturbing. And that is, let me jump over, in fact, to the bottom of page 3, why I think it is so critical in relation to WIC.

The recent GAO report said, and I think this is the most important thing in the report:

> We estimate that WIC decreases the proportion of low birthweights for infants born to women eligible for WIC by 16 to 20 percent. WIC's effect on mean birthweights also appears to be positive.

The GAO findings that WIC decreases low birth weight by close to 20 percent and increases average birth weights by 30–50 grams is really of striking significance. At hearings before this committee last month, Dr. David Paige of Johns Hopkins, an expert in the field, stated, and I think this is in part a key to your question:

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If there is one anchor to the whole discipline of maternal and child health and something that we think about a great deal, it is the fact of low birth weight infants . . . two-thirds to three-fourths of all the mortality in the neonatal period is a function of low birth weight, and it influences disproportionately the infant mortality rate in the United States.

Chairman Helms asked that panel whether the 30–50 gram increase in average birth weight resulting from WIC was meaningful—it does not sound like a lot, 30 or 50 grams——

Senator BOSCHWITZ. How many grams, in a pound—164?

Ms. DIMPERIO. 454.

Senator BOSCHWITZ. 454.

Ms. DIMPERIO. The average baby weighs about 3,000 to 3,300 grams.

Mr. GREENSTEIN. But, as Dr. Rush, of Columbia, who directs USDA's national WIC evaluation responded, he said that for every 150-gram change in average birth weight, the rate of infant survival doubles. So 30 to 50 grams is extremely significant.

Dr. Rush said, "The WIC Program appears to be very successful using the criteria of change in birth weight."

Dr. Paige said that WIC is now the single most effective intervention strategy we have to combat low birth weight, and this is even more striking when we take into account the fact that the 16- to 20-percent reduction in low birth weight is the average impact on all women who enter the program prior to delivery. But some women only enter the program 1 or 2 months prior to delivery, and WIC does not have that much of an effect on them. When you look at only those who are in for 6 months or more prior to delivery, the recent study by the Missouri Health Department found that the incidence of low birth weight was reduced more than 50 percent for those in the program more than 6 months prior to delivery. And that has been rated by Dr. Rush the best study done.

So we have got some very dramatic impacts here.

Senator BOSCHWITZ. It must be hard to pick up women, particularly in their first pregnancy, that soon, that early.

Go ahead.

Mr. GREENSTEIN. These women would be better able to answer that.

I just note one other GAO quote because of your conversation earlier today, the second one on page 5, where GAO reported that, "Participating in WIC may mitigate some of the effect of a mother's smoking", which I think is the point Diane was just making a few minutes ago. A final note on this score is that I think we should recognize the very high standards by which we measure WIC. The School Lunch Program, for example, a very important program, is evaluated for its success in enhancing children's diets and improving their nutrient intakes. In WIC, dietary improvement is only one of many standards against which WIC is measured. Evaluations go well beyond the standard and examine impacts on such life-and-death matters as low birth weight. I know of no other nutrition program which is held up to such a rigorous set of standards, and none other which appears to meet them so well.

I know we hear a lot now that the GAO report said that the findings were not conclusive. When one reads that GAO report closely, what they are saying on the birth weight issue is that the evidence

is very strong. In terms of being scientific, you will recall, it took us probably 20 years before we got to a point that the link between smoking and lung cancer was viewed as conclusive. But during most of that period we knew it was strong and was there. And that is really the same place that we are with the WIC Program.

Now, that raises a question of where we should go.

I think the first key question is the need for adequate funding.

Today, WIC reaches 3 million women, infants, and children. But the census data shows that over 10 million meet the income limits, and most of those would meet the nutritional risk criteria as well. And a survey that we just conducted found that there were 300 counties in the country, or one out of every 10, that still have no WIC Program at all.

Throughout its history, WIC has steadily expanded to meet more of the need. From its inception in 1974 to the present, it has grown at an average rate of 300,000 participants per year.

Senator Boschwitz. 1974 or 1972?

Mr. GREENSTEIN. The legislation was enacted in 1972. The program did not begin operation until 1974.

If that moderate rate of growth is maintained over a 4-year reauthorization period, then the program would serve nearly half of those eligible by 1988. USDA's own National Advisory Council under this administration officially recommended to Congress 2 years ago that the WIC Program be expanded to reach half of those eligible by 1985.

Now, what do I specifically suggest in the period?

I would hope that when the committee reauthorizes WIC, it would establish authorization ceilings that make some growth possible so that more of those in need can be reached. That can be done without resulting in any additional cost to the Federal Government or enlarging the deficit. WIC is not an entitlement, so the Appropriations Committee determines the funding levels. And as you, as a member of the Budget Committee, know, I often think many of your colleagues do not get this straight, your control point on nonentitlements is that total crosswalk to the Appropriations Committee that you give them in the budget resolution, and they have to stay within that.

If you were to reauthorize WIC at the current participation levels, and allow no growth, that would not save any money. The total crosswalk to appropriations is the same. It would mean that Appropriations could spend more in other areas and less in WIC. What I am suggesting is allowing for some growth in the authorization ceilings, hold appropriations to whatever totals you plan, such as those in the resolution now on the floor. And if WIC is a high enough priority program, then the Appropriations Committee or the floor can try to find room in other programs that are lower priority to serve more people in WIC. But I do not think we should allow the argument to be made that in a nonentitlement program like WIC that putting in an authorization ceiling that provides room for some growth itself enlarges the deficit. It does not. It just means that Appropriations has the ability to make a choice that something else is lower priority, and that WIC should get some of the funds.

I would note as one possible approach that H.R. 4661, which was introduced by Congressman Conte, the ranking Republican on the House Appropriations, would set WIC authorization ceilings at $1.5 billion in 1985, and $1.65 billion in 1986, which would allow real growth of about 2 percent a year in the WIC caseload, a very modest amount.

Jumping farther back, on the issue of administrative funds, I will not go into that in detail other than to say that I strongly agree that any proposal to reduce the funding below 20 percent is most ill-advised. I have generally been kind of a hardliner on this issue, and people in the past have taken positions, and the debate has always up until now been, "not should we lower it below 20, but should we raise it above 20."

I have generally been one who has argued that we should not raise it above 20; we should try and hold it there. I must say I am really stunned by the arguments to lower it below 20 percent. I fully agree with everyone else who has said this would damage the services in the program.

Two quick points here.

A survey done by the University of Minnesota in 1982 found that WIC nutritionists have earned an average salary in the last half of 1970's of $13,000 a year, placing them lower on the salary scale than nutritionists for almost any other health program. And, second, and I know this is something that if you are interested in budget control you will find of interest, you really already have cost containment in terms of the health care costs in WIC. It is 20 percent of the total funding. The total administrative funding—is essentially 20 percent of all funds appropriated for WIC. While food costs have gone up 35 percent from 1978 to 1983, during the same period, the CPI for medical care services has gone up 63 percent, much faster than food costs have gone up. But, since the 20 percent stayed 20 percent, what you essentially did was that you limited inflation in the WIC health care costs to the rate of inflation, because that is what it was tied to. So that you have really eroded over the course of the years the amount of funds that are available for health care and nutrition services in relation to inflation in that field. I think that cutting it below 20 percent would cause a real squeeze.

A couple of final points. I am concerned about a couple of other proposals that could arise: the proposal to allow States to fold all nutrition programs into a block grant——

Senator BOSCHWITZ. Would you say that again, please?

Mr. GREENSTEIN. The proposal that the President's Task Force advanced to allow States to fold nutrition programs into a block grant. I think that would be very unwise for WIC. The WIC population—low-income mothers and children—are politically weak in most States. And just think for a second, I think Minnesota would probably be a clear example. If you put child nutrition and WIC into a block grant, and at the State level you had the WIC constituency, such as it is politically, which is not that much, and the education lobby, fighting over the funds, my judgment is in most States what would happen is that you would have more funds going into middle income school lunch programs and less for WIC. I think that would be a mistake. Staying with the issue, I do not

think there is really any point or need to merge WIC into a maternal and child health block grant. One is mainly a good program and the other most of the funds go to traditional health care type of expenses, and you probably have less in food and more in health care. Maternal and child health care funds provide traditional health care, while WIC provides nutrition services and food. Both are important and require adequate funding. Continuing them in a block grant could result in less funding for both of these necessary programs.

Finally, there is a proposal that I know Senator Helms has been considering, or his staff has been considering, to bar WIC foods for children in day care centers and homes in the Child Care Food Program. I think that would also be unwise. Children do not get nutrition education or nutrition services in the Child Care Food Program. They do not get all of their meals there. Some of them maybe get one or two meals a day 5 days a week, not 21 meals a week. The proper procedure is to tailor the WIC food program to provide less foods for children who are getting some in the Child Care Food Program, not to make them ineligible for WIC.

At the last hearing, witnesses testified that most WIC Programs already do this, so there is not a problem.

The final point that I would like to make, I think, if anything, and it is the most important point I want to make today, is that I am very worried that the committee is going to mark up WIC legislation this year and make judgments without all of the information it needs.

FNS has now spent something like $5 million on a national WIC evaluation designed to provide more extensive information on WIC than any previous studies have provided. Both GAO and the President's Task Force said this was the key evaluation. Yet, the committee is on the verge of reauthorizing WIC without getting the results.

Senator BOSCHWITZ. When is that going to be done?

Mr. GREENSTEIN. The results—a lot of the key results are available now. Last month, Dr. David Rush, of Columbia, who is the principal investigator, testified before this committee and said, "I had hoped to present some of the preliminary results of the evaluation to you; however, I am unable to do so until I receive Department of Agriculture approval."

He, on five separate occasions in that testimony, kept saying, essentially, "Look, I have the results, but I am not allowed to share them with you yet." At one point he described a part of the evaluation that was the first major study on WIC's direct impacts on infant mortality. He described in detail all the work they had done and said, "We eagerly await permission to share our findings with you, the basic outcomes of the study are now known to us and could be available to you at FNS' discretion."

I am concerned that nearly a month has passed since he appeared here and, to my knowledge, the committee has not taken action to ask the Department to provide this data.

I cannot understand how the Congress can authorize the expenditure of millions of dollars in research funds on a subject as crucial as this and then reauthorize the program without securing the research results which are available. There are either of two things

going on. One possibility is that the Federal bureaucracy is moving in its usual slow way in clearing research findings. The other possibility is simply that the results are quite positive.

Senator BOSCHWITZ. You can say that now that you are no longer a member of that bureaucracy.

Mr. GREENSTEIN. It was slow when I was there too.

Ms. DIMPERIO. Who would know better? [Laughter.]

Mr. GREENSTEIN. However, I think you will agree——

Senator BOSCHWITZ. We will shake that loose.

Mr. GREENSTEIN. I think that is very important to do, and whatever it shows, let the chips fall wherever they may.

Mr. Chairman, that concludes my remarks. Thank you very much.

Senator BOSCHWITZ. In a timely manner, you have concluded because I have to go vote.

Well, I thank you, Bob, and we will look into that and send a letter over to the Department. What is the timetable for reauthorization? The first week in May. So we should have time to review that, and I would ask that you put together a letter to find out what is holding them up. And we would appreciate having a summary over the recess.

Mr. GREENSTEIN. Could I make one suggestion on that? There is a legitimate problem, that a voluminous document of that sort is very technically written. They take time to prepare it. They may, indeed, not be able to shake loose the whole report, but what Dr. Rush is saying is that he could brief members or staff, or both, as the principal author and researcher hired by the Department on the findings. Even if they cannot produce the document, if they simply will give him the freedom to share with the staff and members what the results are, you could easily arrange some sort of meeting with staff or members or whatever that he could come down and do that, even if they cannot shake loose the whole document. That would serve your purposes well.

Senator BOSCHWITZ. We will talk about that, Bob. We certainly would like to have it. It would not be a very smart move to have such a report in the offing and reauthorize without it.

Mr. GREENSTEIN. Exactly.

Senator BOSCHWITZ. Well, I found the hearing most helpful today. We will prepare an overview of the hearing and submit it to other members of the committee. And I thank all of you for coming.

Where are you from in Florida, what part?

Ms. DIMPERIO. North central Florida. We go from the Georgia border to the Gulf of Mexico. I live in Gainesville.

Senator BOSCHWITZ. In the Panhandle?

Ms. DIMPERIO. No; it is right at the top, north central Florida.

Senator BOSCHWITZ. All right. I thank all of you for coming, and this hearing is adjourned.

[Whereupon, at 4:12 p.m., the subcommittee adjourned; subject to call of the Chair.]

APPENDIX

March 15, 1984 Hearing

STATEMENT OF HON. WALTER D. HUDDLESTON
A U.S. SENATOR FROM KENTUCKY

Mr. Chairman, the testimony presented to us this morning on the special supplemental food program for women, infants, and children should be most helpful to the committee. It will give us needed information on this important program as we consider legislation to reauthorize appropriations for it.

The WIC program provides nutritional assistance to low-income women and preschool children who are determined to be at nutritional risk because of inadequate nutrition and inadequate income.

This morning, we will hear about the recent WIC analysis done by the Government Accounting Office. I believe it is important to emphasize, at the outset, that what the GAO report evaluated was not the effectiveness of the WIC program, but rather the methodology used in recent WIC studies.

Further, I would note that there are some questions concerning the effectiveness of the WIC program that cannot be answered at this time because of a lack of adequate information.

For example, we can't prove conclusively that the WIC program has had a positive effect on the mental growth of infants because we have no known method to isolate individual factors affecting mental development from all the socioeconomic factors which affect it.

Nonetheless, we do know that low birthweight infants have a higher incidence of developmental abnormalities.

Also, although GAO was extremely cautious in most instances -- and I'm not being critical of that approach -- GAO agrees that the WIC program appears to have had a positive effect on the birthweights of the infants of mothers who are teenagers or blacks or have several health and nutrition-related risks. In addition, GAO found evidence that suggests that participating in WIC for more than six months has a positive effect on birthweights.

GAO concluded that, in order to get more conclusive evidence with respect to the program's effectiveness, designs and methodologies used in evaluating the program must be improved, and that progress is being made in that area. I agree that more must be done to increase our understanding of the effectiveness of the program.

I understand that a major USDA evaluation of the WIC program is currently underway, but will not be completed until the fall. Nevertheless, I would hope that the Department will share with this committee their preliminary findings from that study. This information will be of benefit to the committee when we consider the WIC program reauthorization.

Mr. Chairman, I look forward to the testimony from our distinguished witnesses.

STATEMENT OF HON. ROGER W. JEPSEN,
A U.S. SENATOR FROM IOWA

Mr. Chairman, I am pleased to have this opportunity to comment on the WIC program, which I believe is one of the most successful and effective food programs the government operates.

WIC is a practical program which combines food assistance with instruction about nutrition. Helping mothers learn good nutrition habits leads to healthier children. In turn, children who develop an appreciation for good nutrition will most likely not need food assistance as adults. Surely this effort to break the cycle of welfare dependency is a program worth supporting.

In addition to the practical advantages of the program, WIC is a measure of our commitment to the health and well-being of our population. Despite a superabundant supply of food in this Nation, the fact remains that not everyone gets enough to eat. Federal food assistance programs generally do a good job, but more needs to be done. I support efforts to improve the delivery of food assistance.

Mr. Chairman, WIC is often rated as one of the most effective Federal programs for combating hunger. We are hearing reports from all around the Nation about the good work being done by WIC. We must recognize the unique features of the WIC program and not take any action which would dilute the ability of WIC to continue its mission.

STATEMENT OF ELEANOR CHELIMSKY, DIRECTOR,
PROGRAM EVALUATION AND METHODOLOGY DIVISION
UNITED STATES GENERAL ACCOUNTING OFFICE

Mr. Chairman and Members of the Committee:

We are very pleased to be here today to discuss our observations regarding evaluative evidence about WIC's effectiveness. The Special Supplemental Food Program for Women, Infants, and Children (WIC), administered by the Food and Nutrition Service of the U.S. Department of Agriculture, was established by the Congress over a decade ago. It provides food supplements and nutrition education in conjunction with health care to pregnant and postpartum women and children up to age 5 who have health and nutrition risks as well as low incomes. Local, state, and national evaluations have been cited by many as substantial support that WIC is effective in improving the health of mothers and their children in specific ways. In contrast, others have criticized the studies as being so severely flawed methodologically that drawing any meaningful conclusions from them at all is unfounded.

In June, 1983, you asked that we analyze the technical and methodological soundness of the WIC evaluations and that we assess the credibility of the assertions that have been based on them about the program's effects on certain aspects of the nutrition and health of mothers and their children. Specifically, you requested that we focus on WIC's effects on miscarriages, stillbirths, and neonatal deaths and on maternal nutrition. With regard to positive pregnancy outcomes, you asked us to review WIC's effect on "high-risk" mothers and to review the claims that the length of participation in WIC is directly related to positive outcomes. With regard to infants and children, we were asked to look at WIC's effect on the birthweights of infants and the claims that the program reduces the chances of anemia and mental retardation in infants and children.

Our recent report (GAO/PEMD-84-4) summarizes our review of the information and presents our observations regarding what is known about WIC's effectiveness for those outcomes in which you expressed an interest. With your permission, Mr. Chairman, and in response to your time constraints today, let me summarize only the main points of our report, and request that the report digest[1] be made part of the record.

WIC EVALUATION SYNTHESIS

To find out what is known about WIC's effectiveness, we formulated specific evaluation questions; identified the evaluation reports that are relevant to those questions; reviewed them for their design, methodology, execution, and findings; rated them on their credibility and soundness; and analyzed their conclusions. In addition to a bibliographic search, we used a survey questionnaire to contact a broad spectrum of WIC experts--nutritionists, health professionals, researchers, evaluators, and program administrators. Through this process, we identified 61 evaluations that contained information on one or more of the WIC outcomes of interest to you.

[1]GAO. WIC Evaluations Provide Some Favorable But No Conclusive Evidence On The Effects Expected For The Special Supplemental Program For Women, Infants, And Children, PEMD-84-4. Washington, D.C.: January 30, 1984.

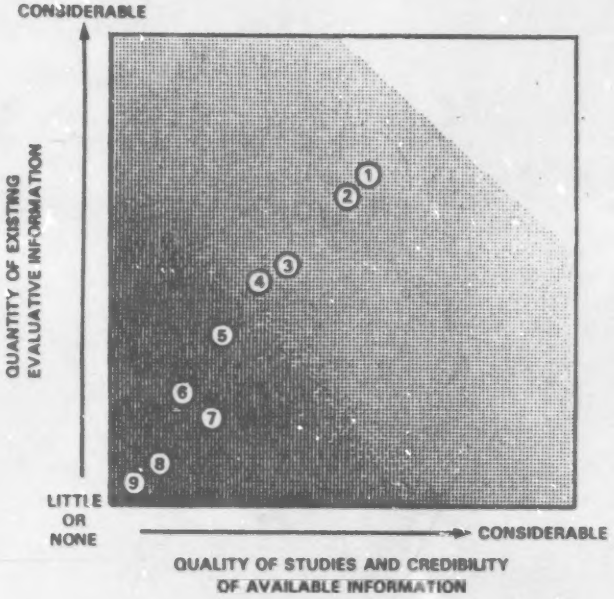
WHAT IS KNOWN ABOUT
WIC's EFFECTIVENESS

The accompanying chart gives our assessment of the strength of the evidence in the various WIC evaluation reports. To be able to say that supporting evidence is conclusive regarding a specific WIC outcome, we looked for evaluative information that was adequate in quantity (which is measured on the vertical axis of the chart) and high in quality (which you can see on the chart's horizontal axis). The absence of topics in the unshaded area of the chart (the upper right corner) indicates that we found no conclusive evidence attesting to WIC's success or failure. As an example, we found substantial data on the birthweight question--circles 1 and 2 on the chart--but we found their quality moderate. Findings on the remaining questions move toward the "gaps in knowledge" corner of the chart, indicated by the darker shading. For example, we found little or no information on mental retardation and on the separate effects of WIC's services for food supplements, nutrition education, and adjunct health care (circles 8 and 9). In sum, our finding is that the information available from the WIC evaluations we reviewed is insufficient for making general or conclusive judgments about whether the WIC program is effective or ineffective overall. On the other hand, the information does indicate the likelihood, in a limited way, that WIC may have positive effects in some areas.

More specifically we found the following. In the area of infant birthweights--circles 1 and 2 on the chart--we found six studies whose evidence is of sufficient quality to give some support for the claim that WIC increases infant birthweights. The average increase in birthweight of infants born to WIC participants in these studies, between thirty and fifty grams, represents a gain of 1 to 2 percent of bodyweight. The most noteworthy finding is that there appears to be a decrease in the number of low birthweight infants, that is, infants who weigh less than 2500 grams at birth. The incidence of low birthweight infants for all groups in these studies ranged from 5.4 percent to 13 percent. The average difference between the WIC groups and their comparison groups in these studies was 1.6 to 1.8 percentage points. This suggests that the effect of participation in the WIC program is a 16 to 20 percent decline in the low birthweight rate.

The variation among the different studies unfortunately prevented us from doing the same kind of summary analysis on the effects of WIC for specific high risk groups--circle 3 on the chart--that we did for birthweights. One study, for example, analyzed results among whites and nonwhites, while another analyzed results among blacks and nonblacks. Age categories were addressed in some studies and not others, and even where they were addressed, different age groupings were used. The more limited data we have on high-risk groups, however, do nonetheless suggest that infants born to teenage mothers participating in WIC are less likely to be of low birthweight than infants born to similar non-participating mothers. There is also some evidence that black women who participate in WIC give birth to infants with a higher mean birthweight and have a lower proportion of infants who weigh less than 2500 grams at birth than comparable black women who do not participate.

OUR ASSESSMENT OF THE STRENGTH OF THE EVALUATIVE EVIDENCE ABOUT THE WIC PROGRAM'S EFFECTS



LEGEND:

- ☐ CONCLUSIVE EVIDENCE
- ▨ SOME OR MODERATE EVIDENCE
- ■ GAPS IN KNOWLEDGE

KEY:

1. INCREASE IN MEAN BIRTHWEIGHTS
2. DECREASE IN PERCENTAGE OF LOW-BIRTHWEIGHT INFANTS
3. EFFECTS, FOR HIGH-RISK GROUPS AND FOR THOSE PARTICIPATING LONGER THAN 6 MONTHS, ON BIRTHWEIGHTS
4. IMPROVEMENT IN MATERNAL NUTRITION
5. DECREASE IN INCIDENCE OF ANEMIA IN INFANTS AND CHILDREN
6. DECREASE IN INCIDENCE OF FETAL AND NEONATAL MORTALITY
7. EFFECTS, BY LENGTH OF PARTICIPATION AND FOR HIGH-RISK GROUPS, ON MATERNAL NUTRITION, FETAL AND NEONATAL MORTALITY, AND ANEMIA IN INFANTS AND CHILDREN
8. DECREASE IN INCIDENCE OF MENTAL RETARDATION IN INFANTS AND CHILDREN
9. EFFECTS OF THE THREE SEPARATE WIC COMPONENTS

The strength of the evaluative information about the effect of length of participation in WIC on birthweights is also included in circle 3 on the chart. While there is evidence that there is a rise in mean birthweight and a decline in the rate of low birthweight infants when program participation extends beyond six months, there were severe study design problems that place these conclusions at a lower level of confidence than the overall mean and low birthweight conclusions.

In the area of improvements to maternal nutrition, the quality and the quantity of evidence from WIC evaluations are lower than those on birthweight, as you can see from circle 4 on the chart. Six studies, of moderate quality, differ in so many important aspects (including the rigor with which they rule out alternative explanations and the measurements they report) that, again, we could not synthesize the results of these studies. Therefore while we cannot make any firm conclusions, there is some evidence to suggest that participation in WIC is associated with some improvements in nutritional well-being, especially in diet, iron, and weight.

With regard to the assertion that WIC prevents anemia in infants and children, limited evidence from two studies of only moderate quality suggests that WIC may be associated with improving the iron levels in their blood. This is also the case with regard to children who are classified as anemic when they enter the program. We found the evidence in this area insufficient for conclusive support, as indicated by circle 5 on the chart.

Our ability to determine the effect of WIC participation on miscarriages and stillbirths or neonatal death--circle 6 on the chart--was hampered by two problems. First, the incidence of death is so rare as to require far more careful attention to sampling design than is found in the existing evaluative research. Second, consistent measures have not been used across studies. Some researchers address stillbirths, and others address neonatal death, perinatal death, and infant mortality. Because of these problems we believe that the evidence is insufficient to support the claims that have been made in this area.

Looking at circle 7 on the chart, we found very little information in which we have confidence regarding the different effects that WIC may be having for different groups of WIC participants. The information is too insufficient and inconsistent to allow us to make informed judgments about how WIC's effects on fetal and neonatal mortality, maternal nutrition, and anemia in infants and children might differ for participants with varying health and nutrition risks. Some evidence suggests that longer participation in WIC improves iron levels in a mother's blood. As for anemia in children, the limited evidence suggests that its incidence is reduced the most during the first 6 months of participation. However, flaws in the evaluations make this evidence inconclusive.

Virtually nothing is known about whether WIC does or does not have an effect on the incidence of mental retardation as shown by circle 8 on the chart. No WIC evaluation has specifically addressed the question. One study did focus on the cognitive development of infants and children in WIC, but limitations in its study design and execution lower our confidence in its favorable conclusions.

Finally, we cannot comment at all on the differential impact of WIC components, such as nutrition provided versus nutrition education or health care, because of the lack of evaluative information about the separate effects of the individual WIC components. That is why circle 9 is placed in the lower left bottom corner of the chart.

In summary, evidence--of highly varying quantity and quality--is available to support a range of inferences about the WIC program, but no definite conclusions. What this means is that, in many cases, the program evaluations performed did not yield the conclusive results expected of them. Why is this? Let us turn now for a moment to those evaluations.

THE CURRENT STATE OF WIC EVALUATIONS

Two kinds of problems are manifest in the evaluations we reviewed: those that could have been avoided and those in which state of the art problems make inconclusiveness unavoidable. First, the avoidable ones; these include common methodological problems such as the following:

--In many cases, the studies we reviewed lacked evaluation designs that are adequate for conclusive statements about program effects. Many could not rule out competing explanations for changes observed--that is, factors other than the program that could have been responsible for those changes. So causes and their effects were often not well established, especially the causal relationship between participation in WIC and a positive outcome.

--Data collection was not always appropriately controlled to insure uniformity and consistency. This results in a shaky data foundation on which to base conclusions.

--Many of the evaluations did not present sufficient, technical details about the WIC interventions that were being studied.

--Relationships between a mother's nutrition, her pregnancy, and the health of her children during the early years of life were often left unanalyzed.

--Finally, as a totality, the evaluations did not build on past research and were not designed to enable subsequent studies to use their results.

Now the unavoidable problems; here we would include at least the following four.

--First, ethical constraints are always imposed on evaluators with regard to true experimental designs. That is, there is a major problem in constructing adequate control groups when that construction means the refusal of services to groups of individuals who otherwise would be eligible for benefits.

--Second, the indexes used to measure nutrition were neither precise nor standardized and experts had not yet agreed on the indicators of nutritional inadequacy.

--Third, the evaluations could not separate the impacts of other programs from WIC, nor could they distinguish the individual effects of the specific intervention components within WIC itself.

--The fourth unavoidable problem is that the existing findings cannot be used to generalize to the WIC program as a whole. When either a large study of national scope or several representative studies with similar findings provide credible evidence about a program, a conclusion regarding general

effectiveness can begin to emerge. In the case of WIC, such conclusions are not yet possible. Although it could be said that this problem was theoretically avoidable, we consider that in practice it was unavoidable because it is unrealistic to expect that evaluations necessary for generalizability could have been cost-effectively performed before WIC's implementation was stabilized and evaluation criteria and measures were formulated and refined.

Despite these evaluative problems, progress can be seen in the improved designs and methodologies of various recent evaluation efforts. The National WIC Evaluation that the Food and Nutrition Service has under way has placed considerable emphasis on reviewing past evaluation difficulties in order to guide the design of the new assessment. We look forward to the forthcoming report of this study. More generally, we believe future evaluations will be able to provide the Congress with the information it needs regarding WIC effectiveness.

CONCLUSION

It is important to point out that our findings do not mean that the WIC program is ineffective or that it is not having the desired effects. We simply do not know, with certainty, what the answers are at this time. On the other hand, the more credible evidence, although insufficient to infer overall effectiveness, does, for the most part, indicate positive outcomes. For example, in the case of birthweights, evidence from six of the WIC studies indicates that participation in WIC may increase mean birthweights. Findings from five of these six studies indicate a decrease in the percentage of low birthweight infants born to WIC participants. The fact that these studies arrived at these conclusions seemed to us to be a valuable one to provide to the Committee, and we have done so.

Many of the studies we reviewed also provided information on other aspects of WIC. This information was intended to be used in ways other than for determining program effectiveness (for example, many of the state-level studies were undertaken to inform program managers and local and state decision makers about implementation and operational questions). Our focus in reviewing the WIC studies was directed at the effectiveness aspects of these evaluations and particularly at those outcomes in which you expressed a specific interest.

A final point we would like to make regards an additional, important benefit we feel has likely resulted from these WIC evaluation efforts. It is the role they appear to be playing in prompting nutrition and health care professionals to come closer together in developing common and accepted standards for their disciplines. Lack of such standards and criteria have impeded the ability of evaluators to measure program effects and these problems have, in turn, raised the level of the debate regarding such standards. It appears now that there is real progress towards some consensus in several areas.

Mr. Chairman, this concludes my statement. We thank you for the opportunity to present our views here today and would be happy to explain any part of our testimony or answer any questions the Committee may have.

GENERAL ACCOUNTING OFFICE
REPORT TO THE COMMITTEE ON
AGRICULTURE, NUTRITION, AND
FORESTRY
UNITED STATES SENATE

WIC EVALUATIONS PROVIDE SOME FAVORABLE BUT NO CONCLUSIVE EVIDENCE ON THE EFFECTS EXPECTED FOR THE SPECIAL SUPPLEMENTAL PROGRAM FOR WOMEN, INFANTS, AND CHILDREN

D I G E S T

The Special Supplemental Program for Women, Infants, and Children (WIC), sponsored by the Food and Nutrition Service of the U.S. Department of Agriculture, was established in fiscal year 1972 to provide food supplements and nutrition education in conjunction with health care to pregnant and postpartum women and to infants and children up to age 5 who have health and nutritional risks as well as low incomes. WIC's annual appropriation grew from $20 million in fiscal year 1974 to more than $1,160 million in fiscal year 1983. In fiscal year 1983, WIC served about 3 million participants.

WIC's proponents have cited its local, state, and national evaluations in support of their claims that WIC is unquestionably effective in improving the health of mothers and their children in specific ways. Others have criticized the studies as being so severely flawed methodologically that drawing conclusions from them is unfounded. The Chairman of the Senate Committee on Agriculture, Nutrition and Forestry asked GAO to analyze WIC's evaluations to determine the strength of their evidence.

Specifically, the Chairman requested that GAO focus on WIC's effects on miscarriages, stillbirths, and neonatal deaths and on maternal

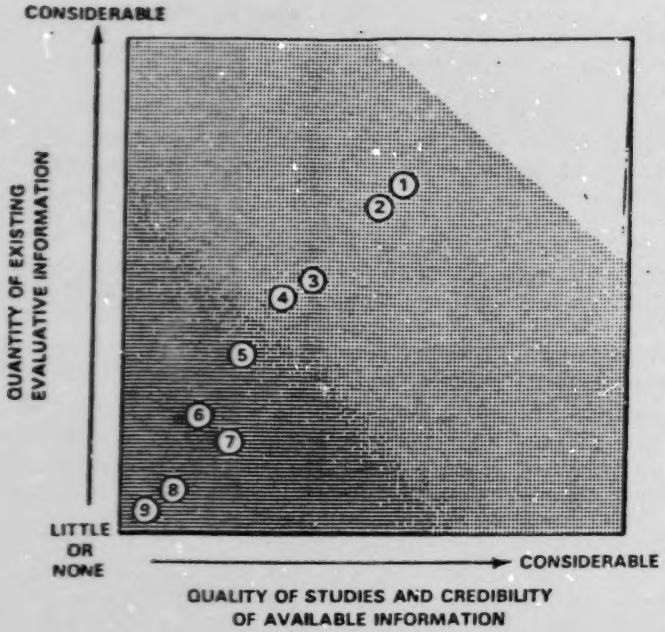
nutrition. With regard to positive pregnancy outcomes, he asked GAO to review WIC's effect on "high-risk" mothers and to review the claims that the length of participation in WIC is directly related to positive outcomes. With regard to infants and children, GAO was asked to look at WIC's effect on the birthweights of infants and the claims that the program reduces the chances for anemia and mental retardation in infants and children.

OBJECTIVES, SCOPE, AND METHODOLOGY

To find out what is known about WIC's effectiveness, GAO formulated specific evaluation questions; identified the evaluation reports that are relevant to those questions; reviewed them for their design, methodology, execution, and findings; rated them on their credibility and soundness; and analyzed their findings. GAO's bibliographic search and consultation with experts identified 61 evaluations relevant to the Committee's interests. (pp. 4-11; app. IV)

WHAT IS KNOWN ABOUT WIC'S EFFECTIVENESS

The accompanying chart displays GAO's assessment of the strength of the evidence in the WIC evaluation reports. To be able to say that supporting evidence is conclusive regarding a specific WIC outcome, GAO looked for evaluative information that was adequate in quantity and high in quality. The absence of topics in the unshaded area of the chart indicates that GAO finds no conclusive evidence of any kind about WIC's success or failure. Data on the birthweight question are substantial, but GAO finds that their quality is moderate. Findings relevant to the remaining questions are pushed toward the "gaps in knowledge" corner of the chart, indicated by the darker shading. In particular, GAO finds little or no information on mental retardation and on the separate effects of WIC's services for food supplements, nutrition education, and adjunct health care. In sum, GAO's critical review of the evaluation designs and their



LEGEND:

- □ CONCLUSIVE EVIDENCE
- ▣ SOME OR MODERATE EVIDENCE
- ■ GAPS IN KNOWLEDGE

KEY:
1. INCREASE IN MEAN BIRTHWEIGHTS
2. DECREASE IN PERCENTAGE OF LOW-BIRTHWEIGHT INFANTS
3. EFFECTS, FOR HIGH-RISK GROUPS AND FOR THOSE PARTICIPATING LONGER THAN 6 MONTHS, ON BIRTHWEIGHTS
4. IMPROVEMENT IN MATERNAL NUTRITION
5. DECREASE IN INCIDENCE OF ANEMIA IN INFANTS AND CHILDREN
6. DECREASE IN INCIDENCE OF FETAL AND NEONATAL MORTALITY
7. EFFECTS, BY LENGTH OF PARTICIPATION AND FOR HIGH-RISK GROUPS, ON MATERNAL NUTRITION, FETAL AND NEONATAL MORTALITY, AND ANEMIA IN INFANTS AND CHILDREN
8. DECREASE IN INCIDENCE OF MENTAL RETARDATION IN INFANTS AND CHILDREN
9. EFFECTS OF THE THREE SEPARATE WIC COMPONENTS

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execution leads to the finding that the information is insufficient for making any general or conclusive judgments about whether the WIC program is effective or ineffective overall. However, in a limited way, the information indicates the likelihood that WIC has modestly positive effects in some areas.

Infant birthweights

Six of the WIC studies containing information about infant birthweights are of high or medium quality. They give some support, but not conclusive evidence, for the claims that WIC increases infant birthweights. In these studies, about 7.9 percent of the mothers in WIC had infants who were less than 2,500 grams at birth, compared to about 9.5 percent of the mothers who were not in WIC. This translates into the positive finding that, in the six studies, the proportion of infants who are "at risk" at birth because of low weight decreased as much as 20 percent. Average birthweights were between 30 and 50 grams greater for WIC participants, an increase of not more than 2 percent. Both WIC and non-WIC infants weighed about 3,200 grams on average, which is above the 2,500-gram boundary below which neonatal and infant health problems are expected. (pp. 12-24)

Fetal and neonatal mortality

The quality and credibility of the evaluative data on fetal and neonatal mortality are substantially lower than the data on birthweights. GAO rates the reports of WIC's favorable effects low in credibility and insufficient to support claims in either direction about WIC's ability to lessen the number of fetal and neonatal deaths. (pp. 24-25)

Maternal nutrition

On the improvements in maternal nutrition that can be attributed to WIC, the evidence is less strong in quality and quantity than that available for birthweights. There are six studies of moderate quality that differ in several ways, including how they ruled out

alternative explanations and what measurements they reported. It is difficult to synthesize their results. Although some evidence does suggest that participating in WIC is associated with a better diet, greater iron levels in the blood and increased weight gain, it is inconclusive. (pp. 28-40)

Anemia in infants and children

GAO finds that the evidence is insufficient to support conclusively the assertion that WIC prevents anemia in infants and children. Limited evidence from two studies of only moderate quality suggests that WIC may be associated with improving the iron levels in their blood. This is also true with regard to children who are classified as anemic when they enter the program. (pp. 43-48)

Mental retardation in infants and children

There is no evidence on WIC's effect on mental retardation. No WIC evaluation has specifically addressed the incidence of mental retardation. One study focused on the cognitive development of WIC participants, but its favorable conclusions cannot be confidently attributed to the WIC program because of limitations in the study's design and execution. (pp. 48-49)

WIC's effect on different groups

WIC does appear to have greater positive effect on the birthweights of the infants of mothers who are teenagers or blacks or have several health- and nutrition-related risks. (pp. 19-23) However, the information on these differences with respect to WIC's effect on fetal and neonatal mortality, maternal nutrition, and anemia in infants and children is inconsistent and insufficient.

WIC's effect by length of participation

GAO finds some evidence that suggests that participating in WIC for more than 6 months

is associated with increases in birthweights and with decreases in the proportion of low-birthweight infants. (pp. 23-24) Longer participation may improve the levels of iron in maternal blood. (p. 38) The greatest reductions in the incidence of anemia in children occurred during the first 6 months of participation. (pp. 46-47) None of this evidence is conclusive, however.

The effects of WIC's three separate components

There is almost no information about the separate effects of WIC's services for food supplements, nutrition counseling, and adjunct health care. Most of the evaluations determined who participated in WIC from unvalidated listings on the WIC roles and give no description of the WIC intervention being studied. The studies that do include data about WIC services do not systematically examine or discuss the separate effects of the three components.

In this synthesis, GAO did not include findings from the clearly poor evaluations. They were so severely flawed that combining them with the findings from studies of high or moderate quality could be misleading.

The following methodological problems are noteworthy in WIC's evaluations:

--they lack research designs that are adequate for establishing a cause and its effect (such as a causal relationship between participating in WIC and a positive outcome);

--the indexes they use to measure nutrition are neither precise nor standardized, and experts do not agree on what the indicators of nutritional inadequacy are;

--the data are of questionable quality because collection and reporting are not sufficiently uniform or consistent;

--the evaluations do not present sufficient, technical details about the WIC interventions that were studied;

--they do not separate the effects of the individual WIC components or of WIC from the effects of other programs, nor do they analyze the relationships between a mother's nutrition, her pregnancy, and the health of her children during the early years of life;

--the evaluations do not build on past research and are not designed to enable subsequent studies to use their results. (pp. 56-57)

Despite these problems, progress can be seen in the improved designs and methodologies of various recent evaluation efforts. The national WIC evaluation that the Food and Nutrition Service has under way has placed considerable emphasis on reviewing past evaluation difficulties in order to guide the design of the new assessment.

Previous reviewers of WIC evaluation studies have offered conclusions ranging between two extremes. Either

--design and methodology problems and program complexity impose such severe constraints that a meaningful overall assessment of the WIC program is not really possible or

--a substantial body of evidence from WIC evaluations now exists and indicates that the program is having a positive and significant effect on its participants.

GAO's position falls between these two extremes.

GAO finds some sound, but not conclusive, evaluative evidence of favorable program effects on birthweights and little credible evidence on several other measures of effectiveness. That the evaluations do not reveal whether WIC is or is not having the effect intended by the legislation underscores the need to design and implement evaluations that can provide the information that the Congress needs. GAO believes that the lessons learned from past evaluation experience will make it possible to produce this information.

Statement of David Rush, M.D.
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Albert Einstein College of Medicine, Bronx, New York
and Principal Investigator,
National Evaluation of the Special Supplemental Food Program
For Women, Infants, and Children (The WIC Program)

I am pleased and flattered to be invited to testify before you today. I am a pediatrician and epidemiologist, and have long been concerned with the role that nutritional supplementation might play in relieving some of the ill health and maldevelopment associated with poverty.

While I had known something about the WIC Program, it was not until I was asked by the Food and Nutrition Service of the Department of Agriculture to take over the responsibility for directing the current national evaluation of the WIC Program in the early Fall of 1981, that I became really familiar with its nuts and bolts. I had hoped to present some of the preliminary results of the evaluation to you. However, I am unable to do so, until I receive Department of Agriculture approval.

I have been able to learn the goals, the administration, and the effectiveness of the program partly from others but mostly because the evaluation has made new information available. Largely because of this growing understanding, I have also become increasingly aware of some inherent and insurmountable limitations to the evaluation of WIC, and that some reasonable and legitimate goals of evaluation probably can no longer be achieved.

In my role as contractor to the government, I and my staff are, in theory, executing a specific set of studies that were defined for us by the contracting agency. In fact, I agreed to take on this responsibility only if we had the opportunity to rethink the entire evaluation with our collaborators, Research Triangle Institute, with no preconceptions, and we received this extraordinary, and probably unique, privilege. While all the field work, and much of the analysis, is now complete, I do not have clearance from the Department of Agriculture to share these interesting and, I hope, important, results with you. Therefore, I shall be speaking in my role as an academic pediatrician and epidemiologist, whose work has been driven by the dual desires to reduce the burden of ill health and impaired development of underprivileged children, while trying to maintain the highest levels of scientific rigor. My opinions are obviously my own, and not those of the Food and Nutrition Service.

There are different ways of evaluating programs. Some we know make sense. Some of them appear to make sense, but on careful scrutiny are not backed up by past experience. Finally, there are criteria for judging programs, as there are for judging anything, which are irrelevant and inappropriate, and by which

the program is very likely to be judged a failure.

Much, though not all, of the confusion about the effectiveness of the WIC program stems directly from misunderstanding about what criteria of success may be legitimately applied to a feeding and nutritional education program in our society. Possibly, by reviewing what might realistically be expected from the program, we could dispel some of this confusion. Thus, I suggest three categories of criteria of program success:

1) Criteria for which there are legitimate current standards against which the program can be judged. Thus, there is reasonable evidence that inputs like those of the WIC program ought to make a difference.

2) Criteria which may or may not apply: past experience does not tell us clearly whether these measures are responsive to change in nutrition or nutrition education. While our evaluation of the WIC program is likely to extend our basic knowledge of the effects of nutrition programs, it is unfair and inappropriate to judge the program a failure if such criteria are not met, given this ambiguity of past evidence.

3) Goals, which we know from past experience, are unlikely to be achieved by this or any other nutrition program. Small, well-observed (and needless to say, expensive) research or demonstration projects have not produced these outcomes, and it is hardly sensible to expect a massive service program such as WIC to achieve what could not be done under optimal conditions.

I will try to give examples of these three classes of criteria of program success. For benefits during pregnancy, there are certain goals which the program ought to achieve, goals we understand with some clarity, and for which we can estimate what ought to be achieved by an effective program, since adequate standards do exist. In my opinion, these include improved diet, improved prenatal health care, small but possibly important increases in birthweight, in the order of 20 to 50 grams, and increased motivation and knowledge of techniques of infant feeding, particularly breastfeeding. For the infant and child, we ought to expect that diet would be improved, particularly by increases in iron, Vitamin C, and Vitamin A, all of which have been demonstrated to be low in the diets of poor children; children who are anemic or thin ought to become less anemic or thin, and we might expect obese children to lose weight.

There is, in the scientific community, great uncertainty whether a program such as the WIC program might produce the following outcomes: in pregnancy, reduction in the mother's use of tobacco and alcohol, increased maternal weight gain during

pregnancy, increased length of gestation, reduction in fetal, neonatal and post neonatal mortality, and decrease in postnatal morbidity. For infants and children, benefits which might accrue, but for which standards are not at all clear, are: reduction in nutritional risk factors associated with chronic cardiovascular disease of adulthood; improvement in subtle psychological function, such as increased attention or moderated activity; reduced family financial pressure; improved health care, particularly preventive care, such as better immunization, more frequent well-child visits, or better followup after treatment for respiratory infections; and reduced morbidity, following both from better nutrition and health care.

Now, to the hard part. Some outcomes, in my judgement, are either unlikely to be responsive to a program such as WIC under almost any conditions, or, if responsive, extremely difficult to measure in actual field conditions. One such condition is "anemia" during pregnancy. Anemia is operationally defined in the non-pregnant individual by low concentration of hemoglobin, or, a low proportion of red blood cells in the blood (the hematocrit). Unfortunately, in pregnancy, this definition is nearly useless, since there is a normal physiological expansion of the entire blood volume. Many women may appear to be anemic, when their total blood volume is expanding somewhat faster than the red cell mass. This is not anemia, is not a nutritional problem, and it is not a necessary signal for therapeutic intervention. Obviously, anemia in pregnancy can be studied, but the study is technically difficult and expensive: large numbers of women must be studied to evaluate a program such as WIC, and the administrative problems of accurately completing and interpreting complicated blood analyses at many sites are daunting. Since it remains a matter of controversy whether routine iron supplements are necessary during pregnancy (and iron supplements supply iron in massively larger quantities than diet), I do not believe that sensible answers will be forthcoming from any evaluation that will allow us to judge whether the WIC program has lowered the rates of true anemia among pregnant women.

Even more controversial is whether WIC should be expected to affect linear growth in infancy and childhood. A very important review entitled "Supplementary feeding programs for young children in developing countries" has really recently been published by Beaton and Ghassemi (1982). Beaton, a distinquished nutritionist at the University of Toronto, and formerly head of the department, is one of the preeminent experts in this field. He and his co-author meticulously reviewed feeding programs in populations at far greater risk than all but a few children in the United States, and one of the striking conclusions was that there has been very little effect of supplemental feeding programs on linear growth, except among extremely deprived children. In addition, for such deprived children the nutrient most often limiting linear growth is calories. In this country, children in supplementary feeding programs do often have improved diets, but they do not usually increase caloric intake. Calorie deficiency is rare here, with certain notable exceptions, such as

among adolescent women. Given these two observations, (minimal or no effect on linear growth in very poor children in the developing world, and minimal expected change in caloric intake in supplemented U.S. children) it appears to me that any expectation of observable change in linear growth from the WIC program is unreasonable. (Note that prenatal benefits may be associated with greater childhood stature.)

There is a key parallel research issue, the problem of knowing whether linear growth has been changed. Recipients of the program during childhood must be compared to other children who have not received the program. There are various ways of making such comparisons. For certain health conditions and treatments, comparisons are easy. If everybody with a certain disease died in the past, and a new therapy leads to some survival, we do not need elegant controlled trials to demonstrate the efficacy of therapy. The situation relating to WIC benefits and growth of children is exactly the opposite. A multiplicity of factors contribute to child growth. Among them are race and ethnic background, parasitic and other infections, social status, other elements of family function, parental stature, climate, etc. To judge whether WIC benefits to children might be accelerating linear growth, it is essential to have a meticulously matched comparison or control group, possibly randomized to treatment or control status. To gather such a control group is probably impossible at this time, given the wide diffusion of the program, and the perceived ethical problems of withholding benefits from otherwise eligible children who might be denied food benefits as part of a research study. Thus, not only is the program during childhood very unlikely to affect linear growth, but, in addition, it is probably impossible now to study this issue in a way that will yield secure answers.

Thus, to demand of the WIC program that it affect linear growth of children is to preordain its failure, since this outcome is both unlikely and, probably, unstudiable.

I consider the expectation of gross psychological improvement in terms of such global and crude measures as IQ, equally unlikely, and again, to use IQ change as a measure of success dictates that the program will be judged a failure. While there has been one report (Hicks et al., 1982) suggesting quite marked improvement in IQ and school performance from prenatal WIC benefits, it is a tiny study (21 children and their siblings) with many methodological uncertainties, and it stands in opposition to a large concurrent literature about the effects of child nutrition on cognition and behavior (see Rush, 1984).

Thus, the necessary first step in judging whether the program has been effective is to articulate a series of appropriate goals. In my opinion, this has not yet been properly done, and it ought to be done by a group with wide experience in both science and administration. Parenthetically, I believe that important program goals for childhood nutrition supplementation do exist.

Next, I thought it sensible to comment on past WIC evaluatory work, but not to dwell on this at length, since you will also be receiving a comprehensive report from the General Accounting Office. I was one of those who suggested to your Committee's staff that you seek impartial and expert judgement of past efforts to evaluate the WIC program, since there is great diversity of opinion about the success of the program. You seemed to be receiving idiosyncratic testimony that did not appear to synthesize our best current scientific information. I suggested a contract to the National Academy of Sciences. While the GAO report is very fair-minded, both careful and complete, GAO has had to contend with unfamiliarity with this field, and their staff were unable comfortably to do a sophisticated analysis of the fine details of each of the past studies of the WIC program. Given its limitations, I am impressed by the promptness and quality of the report, but without sophisticated skills in research on nutritional supplementation, they could not delve into the technical strengths and limitations of the various evaluatory efforts, nor place them in the context of other relevant work that relates to, but was not done directly on, the WIC program.

My staff and I also have recently reviewed all 41 WIC evaluation studies of which we were aware (Rush et al., 1984). This was not part of our initial obligation to the Food and Nutrition Service, but we judged that we could never come to a real understanding of the program unless we reviewed, in minute detail, what was done in the past. FNS agreed that this would be a useful effort, and we received their detailed comments on the first draft of our report at the end of last week. First, we tabulated the key results of each study, and evaluated the strengths and weaknesses of each research design. We then summarized all studies relating to four issues: birthweight; perinatal or infant mortality; change in hematological indices; and finally, changes in infant or child growth.

Some relationship between WIC benefits and birthweight was reported in 22 studies, either as a difference in mean birthweight, or as a proportion of children born under 2,500 grams birthweight, or both. There was a range in the rate of low birthweight, from 5% more among WIC recipients than controls, to 3.3% fewer than controls. For the better and most secure studies, there was a reduction in the proportion of low birthweight infants of about one to two percent (or a reduction of 10% to 20% on a base rate of 7% to 13%, which depends on the ethnic composition and other characteristics of the study populations).

Changes in mean birthweight require cautions in interpretation. Frequently, the raw data of the study were so modified statistically, often in unjustifiable ways, that the data needed to judge what actually happened were no longer available. The range of effect was anywhere from a lower birthweight of 146 grams among WIC recipients, to heavier birthweight by 111 grams (as it happens, in subgroups of the same study). Although the results vary widely, something like a 20 to

50 gram difference in birthweight might be expected from nutritional benefits. The best of these studies is the recent state-wide evaluation in Missouri in 1980 by Stockbauer and Blount (1983), who found a 16 gram increment associated with WIC for all births (probably an underestimate), but a 48 gram increment among blacks.

This improvement suggests that one of the program goals is being met. However, birthweight is a surrogate outcome, and, although easily measured, is not important in itself but because it is strongly correlated with, though not equivalent to, child survival. Seven studies related WIC benefits to perinatal or infant survival. On the basis of currently available studies, it is not possible to infer one way or the other whether the changes in birthweight and frequency of low birthweight associated with WIC have been translated into reduced perinatal and infant mortality. The data available are too scanty and uncertain to come to a reasonable conclusion.

There were 14 studies in which changes in hemoglobin, hematocrit, or other hematologic indices were reported. However, of the 14, only three included controls, and without belaboring the problems of uncontrolled study, the results are hardly adequate to draw secure reference for the important purposes at hand. One possibly valuable uncontrolled study was the massive work done by CDC, which linked serial measures for several thousand of the children included in the CDC nutrition surveillance register. While any observed change between the initial and first follow up visit was severely confounded by a phenomenon known as regression to the mean, subsequent change was much less affected. There did appear to be improvement over time, even after first followup. Of the controlled studies, only one was of infants and none of children over a year of age. In the one study of infants, there were no observed effects of the WIC program. There were two controlled studies among pregnant women. One concluded that there was a positive effect, but statistical tests were used that made the conclusions uncertain, and in this same study, there was internal evidence that controls were initially worse off than subjects. Thus, the available work on hematologic change following WIC benefits can hardly contribute to a decision on the effectiveness of the program.

Of the 12 studies relating child growth to WIC benefits, only one included controls who were followed comparably to WIC recipients, and in this study, there were, not surprisingly, no differences between controls and WIC recipients. In the CDC study, unlike the results for hematologic change, there was very little in the way of growth difference after the first followup visit.

Thus, the WIC program appears to be successful using the criterion of change in birthweight. The data on the other indices is much too fragmentary to draw any conclusions, one way or the other.

We have now finished preliminary analysis of two of the

four substudies of the current National WIC Evaluation. One is a study of over 2,000 pre-school children. We measured child's diet, weight and linear growth, and some indices of use of health care. For a small subset of four and five-year-olds, we assessed several simple psychological functions. A preliminary report has been sent to the Food and Nutrition Service, and is now being revised, given their comments and those of our Advisory Panel.

The study of pre-school children was included as one element of our longitudinal study in pregnancy, into which nearly 6,000 women were recruited before the end of the second trimester. We had intended that one-third of these be women who had not received WIC benefits, but this proved to be an illusory goal. It was impossible to recruit that many women who were otherwise eligible for WIC yet not enrolled in the program. Not only were numbers smaller than we had aimed for (in spite of intense recruiting efforts), but about a quarter of the women that we recruited as controls were subsequently enrolled in the WIC program by the time we re-examined them early in the third trimester.

We did recruit a large, nationally representative sample of WIC recipients in 59 areas nationwide, and assessed change in diet, weight gain, changes in skinfold thickness, change in tobacco and alcohol use, duration of gestation, birthweight, intention to nurse, etc. (The study is too small to assess infant mortality.)

The third substudy, under the direction of Dr. Richard Kulka, of Research Triangle Institute, is an economic analysis of the effects of WIC benefits on family finances, especially on food expenditures.

Our final study is potentially of profound importance. For the past decade, we related WIC to pregnancy outcome in 15 states, in which there were nearly nine million births. The first results of this study have just become available, and they are being submitted to the Food and Nutrition Service. We eagerly await permission to share our findings with you.

The rationale for studying the entire decade in which the program has been in existence is twofold. First, over the course of the ten years, we assume that there may have been diffusion of the program goals beyond the direct recipients of the program. Thus, any observed case/control differences in a current study would be an underestimate of program effect. Moreover, an increasing proportion of high-risk women have been enrolled in the WIC program, making the existence of an appropriate comparison group less and less likely. This would also lead to case/control differences in a current study being underestimates of program effect. Thus, we had strong reason, in order to fully understand its effectiveness, to look backwards to the time when the program began. We have not yet devised a workable way of assessing the effect of childhood benefits over the entire decade. This is by no means impossible, but it remains difficult.

We knew we needed to study the program from its origins, and we then had to create an effective way of doing it. We first considered linking women who had received WIC benefits during pregnancy (and controls) with the birth of their children. This proved to be impossible, since there were no lists of participants before the past few years. Our next approach was to find, for a subset of states, how many women were served by the program, for each county, and for each year (unfortunately we could not distinguish pregnant from postpartum recipients). This was part of the administrative data collected as part of the state's responsibility to the Department of Agriculture. We were also able to identify those states which maintained birth and infant death records such that we could identify the county of residence of mother. We then estimated the number of likely WIC eligible pregnancies for each county from the census and vital statistics. From the census, we knew the numbers of childbearing age women whose family incomes were below 195% of poverty level (the usual upper limit for WIC receipt) and therefore could estimate the number of births, by county and by year, to this subgroup of women.

This may sound a bit daunting, but the goal was simple: to relate the amount of WIC service rendered to pregnancy outcome, as seen in linked certificates of birth and death. Using complex statistical procedures, we are able to control for the effects of change in outcome over time, as well as due to other factors not associated with WIC. There are, of course, some methodologic and statistical limitations with this approach, but, in general, these group comparisons are more likely to underestimate than to overestimate program effects, and any observed effects are most likely truly secondary to the WIC program. The basic outcomes of the study are now known to us, will be in the hands of the funding agency at any moment, and could be available to you at their discretion.

We did look forward to seeing the first results with much apprehension, since hundreds of hours and thousands of dollars of work had gone into the analysis, and not only did we have no preliminary knowledge whether it would work, but we felt a grave responsibility in our role of judging this large and important program.

We were much relieved, even delighted, at the initial results. Several things in this analysis have never been done before. Its scope is vast, and we are relating WIC to changes in prenatal health care indices such as the likelihood of the mother's registering for prenatal care in the first trimester, and the adequacy of number of prenatal care visits. We are also able, because of the large size of this evaluation, to approach issues of child survival, as well as birthweight. We can stratify outcome by characteristics that probably relate to the receipt of WIC benefits. Thus, we have run all our analyses not only on the total county populations, but also for subgroups of births stratified by race and maternal education. We are thus able to assess whether the WIC program works differentially for those most likely to be targeted for the program (race and

education are surrogates, since neither income nor nutritional risk can be deduced from birth certificates). There are further hypotheses which are testable with these data. For instance, do changes in health care mediate some of the changes in perinatal outcome? If they do not, it makes the nutritional component a more likely cause of such change. Further, are effects on mortality more likely around birth, or later in the first year of life? If nutritional effects are most significant, we would expect most change to be early in the child's life; if improved health care predominates, change later in childhood would be as or more likely, since postneonatal mortality is exquisitely responsive to health care inputs.

This evaluation has been an awesome responsibility, remains an exhausting amount of work, but has been an exciting challenge. I know we will have given our best effort to meeting that challenge. I hope my description today is the prelude to a more detailed discussion soon.

Thank you very much for inviting me to your deliberations.

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STATEMENT OF DR. DAVID PAIGE, PROFESSOR OF MATERNAL AND CHILD HEALTH, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.

Mr. Chairman, members of the Committee, I am Dr. David M. Paige, professor of Maternal and Child Health at the Johns Hopkins University School of Hygiene and Public Health with a Joint Appointment in Pediatrics at the Johns Hopkins School of Medicine, and attending Pediatrician at the Johns Hopkins Hospital. I appreciate the opportunity of appearing before the Committee to express my strong endorsement of The U.S. Department of Agriculture Supplemental Feeding Program (W.I.C.) and speak in favor of the reauthorization of the program.

I would like to address the Public Health importance of the WIC Program as assessed by the scientific community.

Maternal Nutrition

The effects of WIC on maternal nutrition have been reported by a number of invertigators. A general effect is an increase in birth weight and a decrease in the percentage of low birth weight infants. The effect of WIC is most clearly seen in those subcategories of the WIC population who are at greatest risk; Black women, teenagers, women with poor weight gain during the pregnancy, low prepartum weights, and history of a previous poor pregnancy outcome.

The measurable effects of the WIC program will not be reflected by every participant, clearly those at greatest risk will demonstrate benefit. There is a threshold below which the nutritional health of the woman is a critical determinant of pregnancy outcome; and at which time nutrition supplementation will influence outcome. Program effects are not evenly distributed among all participants. All low income women do not, by virtue of their economic class, share the same level of nutritional and other

environmental or social risks. It may well be that our evaluative methods and outcome measures are too insensitive to determine the full extent of program benefit.

Dr. Paul R. Silverman's Doctoral Thesis completed in 1982 at the University of Pittsburgh concluded that the effect of the WIC program on birth weight in the 2514 pregnant women studied was not randomly distributed, but greatly dependent on maternal characteristics. Results indicated that women enrolled in maternal and infant care projects after the introduction of the WIC program in 1974 demonstrated significant improvement in birth weight compared to women enrolled in this prenatal project prior to the introduction of WIC (2189g vs. 2095g, $p<.001$). A significant decrease in the percentage of low birth weight newborns was also seen after and before WIC (9.7% vs. 13.0%, $p<.02$). Further, these effects were greatest in women who were non white, entered the pregnancy at a body weight less than 121 pounds, and greater than 30 years of age.

While the expected decrease in the proportion of LBW infants was seen in both the 1044 WIC women and the 1338 Non WIC women, significantly lower proportions of LBW infants were seen in women entering the pregnancy at the lowest birth weight (100 pounds or less and 101-120 pounds) with a significant overall decrease in all weight categories (9.7% vs. 12.8%, $p<.05$).

Another recent evaluation suggesting the positive effects of WIC on improving birth outcome is reported in the 1982 Massachusetts WIC follow up study. This study developed out of the 1980 WIC Evaluation project. It attempts to examine change in birth outcome in two successive pregnancies, the first in the absence of participation in WIC and the latter while participating in WIC. The study

design addresses the criticisms and alternative interpretation of data presented by this group in the 1980 study. Specifically, the initial study concluded that WIC participation is associated with a decrease in LBW newborns, a decrease in neonatal mortality, and improved prenatal care among other findings. Factors which may confound the above results included self selection of the population, differences in income, motivation, differing pregravid weight or smoking history.

The present study attempts to circumvent this criticism by comparing the outcome of two pregnancies in the same women while examining two successive birth outcomes in a matched control group of non WIC women to permit adjustment for temporal changes. The results of this evaluation indicate a significant reduction in low birth weight and very low birth weight infants. In addition, women with short inter-conceptional periods show a greater positive effect of the WIC program. Stratification of the WIC subsample into other high risk categories did not reveal differential program benefits. While data does suggest the longer the period of participation of Black women in the study the more positive the effect on birth weight, other categories of differential risk including age, education, and prior low birth weight status were equivocal in their effect.

Dr. Eileen Kennedy's Massachusetts study of the effect of WIC on birth weight outcome of 1328 women who delivered 1298 live births is important despite methodological limitations. Infants born to WIC women were significantly heavier than comparable infants of non WIC women. The mean increase in birth weight was 60g. Further, the final hemoglobin value for WIC women who began pregnancy anemic was significantly higher than reported in non WIC women. Kennedy notes

"...that in a high risk prenatal population not only can supplementation have an impact, but the WIC program is more cost beneficial...and more cost effective than income transfers in decreasing the incidence of LBW. Despite... approximately 50% leakage in the WIC food, impact is seen. If the food could be targeted better, the benefits of WIC would increase. The key variables...are length and amount of WIC participation as well as the degree of risk of the population served."

In our own study of providing nutritional supplements to high risk, low income pregnant teenagers attending special schools in Baltimore City, a significant increase in birth weight of 157 grams was seen in supplemented teenagers. A reduction in the proportion of low birth weight infants also was reported. Further, those supplemented teenagers who were youngest and did not smoke showed the most significant increase in birth weight. While the study was not an evaluation of WIC but rather a specific intervention with a high caloric supplement, results do reinforce the fact that improvement in pregnancy outcome may be measured in those individuals who are at greatest nutritional risk.

It is clear that the design, methodology, and analyses of the studies referred to and those not commented upon will be debated. It is nevertheless, equally clear from a public health perspective that there is a pattern with respect to the prenatal nutrition intervention studies that suggest adequate nutrition is important in influencing the outcome of pregnancy and those who are at or who have crossed the threshold of nutritional adequacy are at the greatest risk and will be maximally effected by participating in the WIC program. The prudent individual may reasonably draw these

inferences from existent data and may prudently apply these judgements in shaping program policies.

The GAO conclusions on the effect of WIC on pregnancy as reported January 1984, is one that I fully endorse. Namely, that the "evidence indicates that for some segments of the population, WIC can have a direct and positive effect on birth weight. The estimate that WIC decreases the proportion of low birthweight for infants born to women eligible for WIC by 16 to 20 percent". Further, the report that WIC's effects on mean birthweight also appears to be positive with a benefit of approximately 30 to 50 gram increase in mean birthweight is consistent with my own independent assessment of the literature and the results of my own research. In addition, the importance of participating in the WIC program for an increased length of time is consistent with the established scientific literature on the importance of weight gain during pregnancy and the deposit of energy stores during the early stages of pregnancy. These observations complement the significant increase in reported energy intake in WIC vs. Non WIC women in the Endres and NDAA studies.

Infant Nutrition

The effect of WIC on infants and children continue to be studied. Dr. Heimendinger and her colleagues have reported on the positive effect of the WIC program on infant growth in 1982. A retrospective longitudinal study of 906 WIC and 1001 non WIC infants from birth to eighteen months in Massachusetts suggests that children on WIC between 6 and 18 months of age were growing at greater than expected rates, with the most robust effects of the program demonstrated at 6 months of age after participation in WIC

for an average of 4 months.

The Johns Hopkins evaluation did not demonstrate significant difference in anthropometric measures between WIC and Non WIC infants at follow up visits of 6 and 11 months of age. The study design called for the evaluation of all enrollees in the WIC program. It may have been more useful to study subgroups of high risk infants e.g. low birth weight infants. Further, severe constraints exist in any field study of WIC at this time due to the large number of WIC sites throughout each community and the resulting influence and "spillover effect" that the WIC program has on contiguous areas not operating a WIC program.

The population under study was similarly matched with respect to sociodemographic variables, patterns of health care and economic level. Birth weight and gestational age of the infants were also similar. The usefulness of anthropometrics as an outcome measure may, however, be limited as a measure for the universe of infants within the WIC program. A more critical evaluation may be carried out on subgroups of the WIC population at greatest risk. This may include LBW infants evidencing poor rates of growth, iron deficiency, and family members with demonstrated nutritional and/or social problems. It may be that the infant entering the second year of life may be at a greater risk due to more complex feeding patterns, sharing of food within the household, increased leakage of supplemental foods to other household members, return of caretaker to the work place and a loss of the infant's unique, privileged and protected position within the family constellation.

It should be clear that the ecological effects of the WIC program operating in a number of counties on the Eastern Shore may have influenced the content, character and scope

of the health and preventive services provided by all Eastern Shore Health Departments despite the absence of a WIC program. Further, the population was not randomly assigned to study and control groups which methodologically limit the inferences to be drawn from using populations in reasonably similar but nevertheless contiguous counties for a reference group. The study design utilizing chart review and audit may impose additional constraints on the interpretation of study results.

Program benefits not directly measured in this study design should not be overlooked as important elements in the overall health care of the client. These include direct patient education, utilization of nutrition and health care services, outreach and identification of the population potentially at risk, provision of additional social services as reflected in increased use of food stamps and other community services.

The GAO reports on two outcome measures to determine the effectiveness of WIC in infants and children, namely anemia and mental retardation. While anemia may be a useful dependent variable to measure programatic impact, I would suggest the use of mental retardation as an outcome measure is not appropriate. We should seek more precise quantifiable outcome measures related to WIC program benefits. The scientific literature in this area remains unsettled after more than 20 years of study.

In looking at the percentage of infants and children with anemia as reported by CDC and Edozien, one notes a significant drop in the percentage of WIC infants and children with anemia. The decline in children reported on by CDC in the 6-23 month age category from 14.2% to 2.7% over a 12 month period has considerable public health impor-

tance. It is worth noting that at the inception of the WIC program in 1973, iron deficiency anemia in young children in the United States was considered the leading domestic nutritional problem. The intent of the original legislation for WIC was to substantially reduce this problem. I believe the pediatric community has witnessed a substantial decline in the magnitude of this problem over the past decade. I believe the WIC program has made an effective contribution to the reduction of anemia.

Beaton and Ghassemi wisely state that when evaluators cannot measure benefit in the expected direction, it has been suggested that they search for a cause rather than concluding ineffectiveness of the program. Close scrutiny of a large number of studies in their review of supplementation programs led to the conclusion that anthropometric improvement was surprisingly small. For some major ongoing programs there was no increase demonstrable in anthropometric indices. Clearly the programs were vastly different in design, quality of data collected, and use of controls. The authors speculated that the observations were a result of relatively low levels of average net supplementation.

It is suggested that energy and nutrient supplementation not accounted for in growth may be producing unmeasured responses in children in the form of physical activity, play and adaptation of Basal Metabolic Rate. These changes may equal or exceed the value placed on growth as a measure.

An objective of food distribution programs for preschool children as outlined by Beaton and Ghassemie is the improvement of nutritional health, or the prevention of nutritional deterioration of targeted individuals within the community. Additional benefits may be seen in the incentive

to participate in health or other social programs, augmentation of other intervention programs, on occasion the use of a new food, and depending on the size of the program redistribution of income in the population. Clearly the WIC program meets these objectives.

Conclusions

1. Birth weight is increased.
2. Low birth weight is reduced.
3. Subgroups within WIC at greatest risk benefit most.
4. Women with low prepartum weight show greater improvement.
5. Women with poor weight gain during pregnancy demonstrate improvement with nutritional supplementation.
6. The studies of independent studies complement each other. The following results demonstrating program benefits are interdependent; benefits of longer participation, associated with increased energy intake followed by an increase in mean birth weight and a decrease in low birth weight newborns.
7. There is a significant decrease in the percentage of infants with anemia following a 12 month participation in the WIC program.
8. Infants and young children demonstrate equivocal results with respect to anthropometric measures.
9. Increased caloric requirements for activity with increase in age may suggest anthropometric measures may not be as meaningful as developmental measures.
10. Infants and children at greatest risk should be studied independently.
11. The preventive health considerations of the program

should be emphasized. The WIC program is designed to prevent deficiencies in high risk populations.

12. The package is supplemental and designed to accomplish the preventive objectives; the food package is not therapeutic.
13. In a preventive health program like WIC, it is not wise or cost effective, particularly for the young child, to wait for the evolution of a health problem before developing an intervention.
14. Evaluative measures are often too crude to identify more subttle program benefits.
15. The nutritional supplementation of WIC is integrated into the health care delivery system and cannot be studied independently.
16. The ecological effect of the program may limit any independent evaluation of WIC, in as much as it influences all health care in a community.
17. The WIC program is effective.

STATEMENT OF PATRICIA K. WILKINS, CHIEF, OFFICE OF MATERNAL AND CHILD HEALTH SERVICES, DIVISION OF HEALTH, DEPARTMENT OF SOCIAL AND HEALTH SERVICES, OLYMPIA, WASH.

Members of the Committee - First let me say thank you for the opportunity to speak with you today. My perspective is a bit different from many you will be provided. That is because I appear before you today as an individual involved both personally and professionally in the field of social and health services for nearly twenty-two years and as an administrator responsible for a variety of maternal and child health programs of which WIC is one important component.

The comments I share today deal with one of the most effective federally derived social programs in recent history. WIC works. It puts nutritious food on the tables of hard pressed families with minimal opportunities for clients, administrators, vendors, or others to interfere in this purpose through manipulation or abuse. I am unalterably convinced that WIC is one of our most successful "helping" programs based on my personal and professional experience with SSI, Community Action Programs, Food Stamps, Title XX, and other well-intentioned federally driven attempts to serve the needing special populations of our country.

I wish to offer three specific points for your consideration.

1. WIC is an integral component of a total health care system and is particularly effective as a preventive measure.

   WIC brings people into a preventive health care system who would otherwise not be there.

   - Reduction of low birth weight infants.
   - Reduction of birth defects.
   - Nutrition education for adolescent and other high-risk mothers.
   - Increased level of nutrition awareness of families and clients.

2. Current expenditure authority is NOT conducive to sound management principles and increased dollar for dollar effectiveness.

   - Planning and projections based on 3 to 6 month expenditures are weak.

   - Utilization patterns tend to be 12 to 18 months in duration NOT controllable in 12 month cycles.

   The proposal to institute a carry-over approach is not an effective tool because of "adinfinitum" aspect.

   The most positive approach is the two year expenditure authority without effect on yearly grant award which allows maximum management capability.

3. Current "two pots" of funds - food and administration - does not speak to actual use and benefits of WIC dollars Administration really covers two distinct services.

   - Health service delivery should be identified as a separate cost category (nutrition education and counseling, assessments for nutritional-medical risk factors, developing referral systems into appropriate health care, etc.)

   - True administration services should be identified whether at state or local level and should include the critical aspect of computerized management of voucher utilization and control.

   - Food expenditure increases should be based on real increases in the cost of providing the WIC food packages.

I was not asked to appear before you today because Washington is a "leader"

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in the national WIC Program. We should be and can be. As a matter of fact, we will be if we are just provided the opportunity to rectify past poor judgments and implement sound and proven management principles. If provided this opportunity we will be a leader because in spite of past weaknesses we remain a state providing WIC benefits to a high percentage of the top priority clients. Eighty-four percent of all WIC clients in Washington State fall in the first 3 priority categories. Fifty-eight percent of clients are women and infants, versus 42 percent of clients being children. Of those children being served, 73 percent are priority 3. Our unserved population is exceptionally high. In 1982 we were serving only 17 percent of our eligible population.

While that figure improved in 1983, it still means we have at least 103,000 persons eligible for WIC benefits who are not now in our program. Of these, 31 percent are women and infants.

In the realm of social service programs, ten years is not a very long time to prove effectiveness. It is certainly not a long time when we consider states like Washington which have yet to tap potential and demonstrate full commitment to dynamic leadership and management.

To cut back on national commitment to the WIC Program when its benefits are only now being realized and when needs of the populace are so severe, would be self-defeating and penurious to those undeserving of such action.

The state of Washington, with the cooperation of the USDA, is ready to make a concerted and intensive effort to improve its management of the WIC Program. We WILL create a partnership among our clients, our vendors, our clinics and the state. We WILL develop cost efficiencies and program approaches that reach those most in need.

Now is not the time to reduce the ability of the WIC Program to meet a critical national need. Now is the time to invest national resources

in a program that directs its benefits to those most in need and who will most greatly respond to the prevention of increased health care costs. Common sense tells us investment in the WIC Program is a sound investment in the WIC program is a sound investment in the continued health of our nation. It is also a sound investment because its long term impact (reducing the need for more costly health care) can assist our nation's efforts to reduce our financial deficits.

STATEMENT OF BEDFORD H. BERREY, M.D., F.A.A.P., ASSISTANT STATE HEALTH COMMISSIONER, VIRGINIA STATE DEPARTMENT OF HEALTH, RICHMOND, VA.

Mr. Chairman, and members of the Committee, I am pleased and honored to have been invited to appear before you today to provide observations which may be useful to your deliberations on and evaluation of the Special Supplemental Food Program for Women, Infants and Children - popularly known as the WIC program.

We in Virginia enthusiastically support the WIC Program. There is no question that this program has met and continues to meet the nutritional needs of a segment of our population - those low income women, their infants and children - who are at nutritional risk. As members of this Committee are well aware, WIC is not food stamps. Rather, it is a soundly based program carefully developed and thoughtfully administered by the U.S. Department of Agriculture. The program encompasses and requires a medical/health assessment and of equal importance nutritional education. These two essentials set it apart from all other food and/or nutrition programs operated by the federal government.

When PL92-433 (1972) was passed, Virginia did not rush to sign on. However, a pilot program was initiated in the Alexandria, Virginia Health Department in 1975-76. State-wide implementation was not begun until October, 1977. In August, 1977, we were advised that Virginia must have the program operational by October 1, 1977. Despite the short interval, we met the deadline established by the U.S. Department of Agriculture (USDA). It would have been preferable to have had the luxury of a bit more time to carefully develop implementation plans. Nonetheless, we succeeded and the WIC program became a reality in each of our 118 local health departments. Our aim then, as now, is to provide the greatest good to the greatest number of eligible women, infants and children within the resources available.

Virginia's health department is rather unique. We operate under the broad policy guidance of a single Board of Health appointed by the Governor. The State Health Commissioner serves as the Chief Executive Officer of the department. We are organized into 5 regions, 35 health districts and 118 local health departments. Some health departments operate satellite WIC services sites. All told, we have 156 WIC service sites in Virginia. Every locality (city, town or county) in Virginia has a health department which receives policy guidance, program direction and resource allocations from the central office in Richmond. All local health departments operate under a cooperative budget arrangement with funds provided by the state and locality based on a specific formula. This, of course, does not apply to the 100% federally funded programs such as WIC but is is applicable in all other federal programs requiring state contributions.

Throughout the 8 year history of WIC in Virginia, we have experienced frequent visits from the Food and Nutrition Service of the USDA Regional Office in Robbinsville, New Jersey, as well as an audit by the USDA's Office of Inspector General (OIG). In addition, we have had our own internal audit, as well as audits by the Office of the State Auditor. We are proud of our program and most especially proud of the ratings we have received by USDA over the years

pertaining to the manner in which we coordinate WIC with other health care services.

The recent FY'83 USDA Management Evaluation of the Virginia WIC program summarized the advantages of this State's administration of the program when it stated:

> "We commend the state agency on the wide scope of health care services offered to WIC participants at clinic sites and on the high degree of WIC program integration into the local health care system. We believe the health care setting in which WIC is offered in Virginia epitomizes the regulatory intent that WIC be an adjunct to good health care. Moreover, during our observation of several certifications, we noted the thoroughness and professionalism with which medical histories were taken, nutritional risk determinations were made, and nutrition education was given by local agency staff. We continue to emphasize that the involvement of these health care professionals in the WIC program distinguishes it from other food programs as one concerned with health care."

In Virginia we have identified approximately 136,000 WIC eligible woman, infants and children. With the budget allocation to Virginia, which for FY84 was $26.5 million, we have been able to provide the appropriate food packages, medical and health assessments and nutritional education to 63,560 of these persons each month. While we have no waiting list in Virginia, where priorities for service become important, it may be of interest to the Committee to know that 57% of our participants are in the three highest priorities as established by USDA. The major limitation to expansion is money.

All of the WIC patients undergo eligibility processing prior to receiving service. A health/medical risk appraisal is also part of the initial visit. Our procedures are set forth in the Virginia WIC State Plan developed in accordance with the Rules and Regulations established by USDA.

It may be of interest to the Committee to have an awareness of our relationship with the private practice of medicine. While there have been isolated requests that private physicians be permitted to operate the WIC program, we believe the present system provides the greatest assurance that the nutritional education requirement is met and that the six month certification requirement is not overlooked. Perhaps the greatest nonmedical, non-nutritional reason is accountability for public funds. No person or agency looks forward to audit exceptions.

Because WIC program services are so widespread and available throughout Virginia, we believe that the present system of referals from the private sector is the most cost effective way of ensuring coordination with physicians in the community.

It should also be noted that from a management perspective the current referral methodology is the most workable approach to providing services to the patients of private sector physicians. Virginia's WIC program is now developing a new electronic data

processing system that will rely on computer supported communications from the field to the State WIC Office. It is not expected that private physicians will have the capability to interact with our system.

Improved Outreach has become a major goal of the WIC program in 1984. Particular consideration has been given to implementing special private sector outreach to assure that persons potentially eligible for the WIC program are referred to the appropriate local agency. Since many eligible patients receive their routine health care from a medical center or private physician, the involvement of health care providers in referring patients to WIC services is essential. Outreach efforts have been made in the following areas:

> To increase information sharing, private physicians from across the state speak at our annual WIC nutrition educators meetings; many local and regional WIC nutrition educators have spoken to individual groups of physicians.
>
> To simplify referrals, the WIC program referral form has recently been revised to provide a clearer explanation of medical eligibility requirements. The new form should result in less confusion for the physician and augment referrals from the private sector. More needs to be done, however. WIC would like to work more closely with the private sector concerning the promotion of breast-feeding. The WIC program would also like to make available our nutritional recommendations to health care providers in the private sector so that patients will not receive conflicting information. (Many WIC nutritionists are currently doing this locally.)

Another major strength of the WIC program is its strong emphasis on nutrition education. Teaching the WIC participant to care for her nutritional well being and that of her family is an enormously difficult, yet fulfilling challenge. We in Virginia have warmed to this task because we believe that nutrition education is a critical element in our efforts to maximize the impact of the WIC Program. Individuals learn from WIC nutritionists and nurses about their specific nutritional needs, the nutrient necessary in the human diet and the foods that contain them. They are taught to shop for nutritious foods and to prepare well balanced, economical meals. The goal is a positive change in eating patterns that can benefit WIC participants not just during the period when they are on the Program, but over the subsequent years of their lives as well. Without this kind of modification of knowledge, attitudes and practices with respect to food consumption patterns, the short term provision of food will have only a limited impact on those we serve.

As I suggested earlier, the challenge of providing successful nutrition education in the WIC Program is a significant one, but we are encouraged that participants appear to be responding well to our efforts. In a questionnaire distributed last year to over 6,300 women on Virginia's WIC Program, 91% responded that they now feel that learning about food and health is very important.

I would also like to point out that the Virginia WIC Program has made significant strides during the past year in strengthening its food delivery system. We use a retail purchase system throughout the State which employs a negotiable check similar to a traveler's check. The participant first signs this food instrument at the health department and then countersigns it upon presentation to any one of the approximately 2,000 grocery stores, pharmacies or military commissaries throughout the State which are authorized WIC Program vendors.

The vendor fills in the dollar amount of the WIC items at the time of purchase, with each check good only for an amount not to exceed $15. Each of these vendors has signed an agreement with the State WIC Office which delineates his responsibilities in the Program, and he is supplied with a WIC vendor decal or poster to place near the entrance of his store.

Training and assistance for these vendors is provided by five regional WIC Program Representatives who also monitor vendor compliance with the terms of the agreement. These staff members also provide administrative assistance to WIC clerical staff in local health departments on an ongoing basis. It should be noted that the WIC Program in Virginia has been virtually fraud free up to this point, and we are committed to maintaining it this way. Accordingly, we have within the past 60 days issued a revised set vendor policy and relations, we have worked cooperatively with the Virginia Food Dealers Association to ensure the integrity of this very important program.

Mr. Chairman, your cordial letter inviting me to appear today indicated that my comments would be welcome on the recently published General Accounting Office (GAO) report on its assessment of the WIC evaluation studies. Your letter further indicated that suggestions and observations with respect to improving the administration of the program would be appropriate. I welcome the opportunity to provide such observations and suggestions.

First with respect to the GAO study. The GAO staff screened a multitude of studies for their relevance to the scope of the review requested by you, Mr. Chairman, and they rated the methodological quality of the studies.

While we believe the Report fairly assesses the existing WIC studies as to their statistical rigor it nonetheless seems to grudgingly admit that participation in WIC does to some degree produce favorable effects, particularly on birth weights.

It would have been a more balanced report if it had emphasized that a nutritionally based supplemental food program should not be expected to produce dramatic, short term improvements in nutritionally related outcomes. Changes resulting from altered nutritional patterns occur over time. It may be months or years before clear evidence of positive changes become manifest. While I profess no expertise as a nutritionist my nearly 34 years as a Board Certified Pediatrician convince me that this longitudinal aspect of evaluation must not be overlooked. This is in sharp contrast to certain preventive programs, such as immunization, which produce outstanding and measurable results. The eradication of smallpox worldwide is a prime example.

The three components of the WIC program - food supplements,

adjunct health care and nutritional education - make analyzing the effect of any component difficult. A report prepared as part of the project, "Evaluation of the Special Supplemental Food Program for Women, Infants and Children WIC," by Research Triangle Institute (RTI) shows a conceptual model of WIC (Chapter 3, pg. 106 cf: "Evaluation of the WIC Program, Predesign Activities, Phase 1 Final Report" (Research Triangle Institute), August 1981. The model identifies about 75 or more variables and the linkages among them. The RTI report goes on to state "only a fraction of these variables and linkages, however, are measurable..." Despite this caveat, we believe, based on our limited knowledge of the study, that the RTI project will produce an evaluation which will contain the strengths identified in the GAO report (pg. 7), as needed by a document to meet scientific rigor. We believe that the RTI evaluation will also provide data that is useful for making national decisions; this responds to a shortcoming identified by GAO in existing studies. It

needed by a document to meet scientific rigor. We believe that the RTI evaluation will also provide data that is useful for making national decisions; this responds to a shortcoming identified by GAO in existing studies. It is our understanding that the RTI evaluation report is expected to be ready in May 1984.

The GAO report makes references to evaluation of the Missouri WIC program in relation to elements of birth weight and mortality (Joseph W. Stockbauer, "Evaluation of the Missouri WIC Program: Prenatal Component," 1983, Missouri Center for Health Statistics.) (Wayne Schramm, "WIC Prenatal Participation and its Relationship to Newborn Medicaid Costs in Missouri: A Cost/Benefit Analysis," 1983, Missouri Center for Health Statistics.) These reports have been brought to this Committee's attention in earlier testimony by C. Richard Blount, Program Coordinator, Missouri Division of Health. We would like to suggest that more studies be performed in line with Schramm's cost/benefit analysis of WIC participation on other health programs, in particular Medicaid.

In fairness to all who are concerned with maternal and child health and infant mortality and morbidity, I do not believe that we can afford to seriously believe that WIC by itself can be expected to alter maternal or infant mortality. What WIC can do is provide an immensely valuable addition to prenatal medical management programs such as Maternal and Child Health (MCH). The coordination of the two programs is particularly effective for the high risk pregnancies. Its continuance after birth is a forceful ally to improved post-natal care for the mother and her infant at the time when nutrition education is so important.

In Virginia WIC participants are encouraged to enroll in MCH programs or at a minimum have ongoing health care from a community provider. And, conversely the MCH program uses WIC as a nutritional adjunct to medical care where the need exists. They are considered in close alliance and our clinic personnel are constantly on the alert for patients at higher risk.

The effectiveness of this approach has been demonstrated by Louisiana. The Louisiana benefits were outlined on page 6 of the Comptroller General's report on "WIC, How Can it Work Better?" CED-79-55, February 27, 1979.

We in Virginia have not made any study which evaluates the melding of food supplements, medical case management and nutrition

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education, but we believe our experience parallels that of Louisiana.

The purpose of the MCH program is to ensure mothers and children with low income or with limited availability of health services access to quality maternal and child health services. Its aim is to reduce the infant mortality and the incidence of preventable diseases and handicapping conditions among children.

The program in each state is different because of the necessity to conform with the organization of the health care delivery system within each state. However, the overall purpose and goal remains the same. The WIC nutritional program is an ancillary program and it is a very important point of entry into the health care system. One of our high priority objectives is to provide early and adequate prenatal care to low income women in order to reduce perinatal morbidity as well as infant morbidity and mortality.

We strive to ensure that low income women start their prenatal care in the first trimester and receive at least ten prenatal visits prior to delivery. In an effort to reduce infant mortality, of which low birth weight is the most common cause, nutrition becomes a very important element in the care of pregnant women and especially for high risk adolescent pregnant women.

We are all aware of the adage, "If it ain't broke, don't fix it." That adage may be appropriate to these deliberations on the WIC program. There could easily be competition for WIC funds if they were combined with the MCH Block Grant.

Section 505 of Title V of the Social Security Act states that the Maternal and Child Health Program will coordinate its activities with such programs as EPSDT and WIC. However, Section 504 (b) (2) states that allotment funds may not be made for cash payments to intended recipients of health services. This legislation could possibly prohibit the use of MCH Block Grant funds given in the form of negotiable checks for the purchase of food commodities, unless the statute is amended.

Turning now, Mr. Chairman, to the administration of the program the following comments I trust will be useful to this committee.

It is imperative that we never lose sight of the fact that the purpose of the WIC program is to provide supplemental food, nutrition education, and health assessment through local agencies to those who are eligible. Administration of the program from its source at the USDA here in Washington, through USDA regional offices to the states must focus on provision of services and outcomes and less on process. Too much time and money spent on process surely is self defeating and counterproductive to the goals of the WIC program.

Citing two examples may be illustrative to the committee of the concentraion on process:

a. The 1983 WIC State Plan Guidance from USDA consisted of 39 pages. When health providers are committed to the goals of WIC the inclusion of such detail as, for

example, a definition of what constitutes a certain type of nutrition education seems to be an excessive concern with minutiae and process.

b. The 1982 Guidance package indicated that "the State Plan should describe how the State goes about identifying the race and/or ethnic group of the individual participant." Now really, is it necessary to belabor the obvious?

Other administrative aspects of WIC such as those dealing with certification processing standards, fair hearings and public hearings for the annual WIC State Plan likewise tend to place an inordinate emphasis on matters of process. So much so, in fact, that trying to comply with all the various regulations relating to these areas at times consumes a great deal of hours and energy that could be more productively spent. We are hopeful, however, that several of these problem areas will be effectively addressed in revised WIC regulations which we are currently awaiting from USDA.

Improvements have been made over the years in notification of the state grant level for each FY. At one time, notification was done on a quarterly basis. For FY 1983 it was January 1984 before the grant level was known. For FY 1984 it was December before we had solid figures upon which to plan for the year.

There are still problems at the start of each fiscal year of which we are all aware. These relate to the problems surrounding continuing resolutions and indefinite information on grant levels.

The effective tailoring of WIC caseload levels to insure maximum utilization of available funds is a difficult assignment. This requires careful long range planning if we are to avoid disruption of services to enrolled participants.

On the matter of WIC administrative costs, some have suggested that 20% of a state's allocation going for administration is too high. That might be true if there were only the usual costs connected with the administration of a federal program. In the case of WIC, however, we need to recognize that the costs of operating this program go beyond those which are ordinarily perceived as administrative in nature. These costs also encompass health/nutrition assessment expenditures as well as nutrition education costs. Taken together, these three programmatic components impose a substantial legislative mandate on the WIC Program which, if the truth be known, cannot be adequately met even with a 20% administrative grant. That is, the State has difficulty now documenting adherence to all federal regulations that govern this program, and we certainly could not do as well with less money. Other states which do not have the benefit of many in-kind services through the health department like we do in Virginia would have even greater problems with a decrease in the percent of administrative funds. We urge you, therefore, to recognize that 20% is the minimum level of administrative funding that will allow WIC to operate in accord with the way it has been designed. To go below this level, given the increasing costs of running such a program, would mean that we could not sustain even the current level of support that we have for WIC and the quality

of services would drop accordingly.

Another issue which I would urge you to consider is the possibility of some new language in the WIC authorizing legislation which would allow a state to overspend its fiscal year grant up to a certain limit. This could be 1% with the stipulation that such an overexpenditure would be deducted from the subsequent year's grant. This would permit state agencies to come closer to spending their full allocations in any given year while at the same time guarding against large overruns. To be sure, such a feature presupposes the continuing existence of the WIC Program for the foreseeable future, a prospect I hope you will endorse. Toward that end, I strongly urge you to reauthorize WIC for a four year period at funding levels which will at the very least allow us to maintain our current program levels. WIC is one of the best public health programs we have and with that kind of continuing support from you, we are committed to making it even better.

Thank you, Mr. Chairman and members of the Committee, for the opportunity which you have afforded me.

STATEMENT OF GAYLE JOYNER, M.S., R.D., DIRECTOR, BUREAU OF NUTRITION, JEFFERSON COUNTY DEPARTMENT OF HEALTH, BIRMINGHAM, ALA.

Mr. Chairman, Members of the Committee, Ladies and Gentlemen:

I consider it an honor to be invited to address this committee. I am the Director of the Bureau of Nutrition for the Jefferson County Department of Health in Birmingham, Alabama. For the last ten years I have also served as the WIC Coordinator for this county. It is in this capacity that I come before you as a local WIC program administrator to address several issues that I feel are important from the local perspective during this most important year of Program reauthorization.

The intent of the Senate House Appropriations Conference Agreement for fiscal year 84 for the Agricultural Appropriations Bill was for $1.06 billion to be spent for October 1, 1983 through July 10, 1984. This translates to a $1.36 billion annualized rate, which means we would need an additional $300 million supplemental appropriation for the period July 11 through September 30, 1984 to maintain current services. With the Administration's proposal of $167 million supplemental appropriation, it has been estimated that we will have to drop one million clients from the case load in a two and two-third month period.

With approximately 18% of Alabama's case load, Jefferson County is the largest county WIC Program in the State. Based on our most current enrolled figures, we have a case load in Jefferson County of 12,495 clients. The difference between the $167 million and the $300 million supplemental appropriation is roughly 55%. If the Administration's proposal is approved, about half of Jefferson County's participants would have to be taken off the Program within a very short time.

We need the $300 million supplemental appropriation to maintain the nation's current case load. And we need it passed within the next sixty days to assure program stability and continuity.

The Administration has proposed a $1.25 billion budget for fiscal 85. They state that this will serve 2.7 million clients. According to the Congressional Budget Office projections, taking into consideration food price inflation, the Administration's proposal would, in reality, serve only 2.55 million clients. WIC currently is providing supplemental food and

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quality nutrition education to three million clients. We would see 450,000 eligible persons removed from the Program in 1985 if the Administration's proposal is accepted. In Jefferson County this would mean a reduction of 15% in case load.

Any reduction in case load will be a hardship for clients since we still have double digit unemployment in the two major cities in our county (Birmingham 15.4%; Bessemer 21.7%). Also, our infant mortality rates are high (Birmingham 18.7 non-white; Bessemer 23.6 non-white).

One proposal is to target services to high-risk clients. The current WIC regulations already provide a mechanism for prioritizing clients based on nutritional risk criteria. At the local level, we feel that the clients we are now serving are the high-risk clients. In Alabama, we are targeting both for nutritional risk and income (using 170% of poverty level as a cut-off point.)

We support a four-year reauthorization for the Program to establish stability in funding to assist us in meeting the Program requirements and to maintain credibility in the community. With the one-time allotment from the Jobs Bill money, in four months we increased our case load from 8,000 to the current 12,000. We are now serving all six priorities, and yearly fluctuations in funds would put us back on the roller coaster on again-off again mode of programming that we thought was past history with the WIC Program. Not only is this a difficult thing for our clients to accept, it is a difficult thing for our staff to work with. Because of the case load increase in Jefferson County, we have been recruiting, hiring, and orienting new staff for the last six to nine months. We are now at a staffing level that we feel is appropriate based on the staffing standards in our state of one professional per 600 clients. Faced with these fluctuations, not only would our clients suffer but also the integrity of the Program. I am sure that the Committee can appreciate that the havoc caused by the constant fluctuations in funding is felt most acutely at the local level.

The Administration has also proposed a reduction of the WIC administrative funds from 20% to 18%. Administering a WIC Program involves much more than the clerical work of issuing vouchers. Here are a few of the costs that must be paid from these administrative funds. Nutrition education, which is mandated at a minimum of one-sixth of the administrative funding, includes activities which are distinct and separate efforts to help participants understand the

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importance of nutrition to health. Costs to be applied to nutrition education may include, but are not limited to, salary and other costs for time spent on nutrition education consultation, the procurement and production of nutrition education materials, the training of nutrition staff, conducting evaluations of nutrition education, salary and other costs incurred in developing the nutrition education portion of our State Plan and local agency nutrition education plans, and the monitoring of nutrition education. Another administrative defined cost is the certification procedure. This includes laboratory fees for tests, expendable medical supplies, medical equipment required within the Program such as centrifuges, measuring boards, calipers, scales, etc., and the salaries and other costs for time spent on certification. Still other administrative costs are: the cost of administering the food delivery system, the cost of translators for materials and interpreters, such as needed for our Vietnam clients, the cost of fair hearings, the cost of transportation for rural participants, and the cost of monitoring and reviewing Program operations.

In other words, the administrative cost category of 20% includes everything but the food. WIC is unique in that the professional/medical nutrition assessment and counseling services are classified as administrative costs. These direct client services are provided by professional staff, and the salaries for these positions represent a major portion of the administrative costs. I feel that we cannot work with any administrative funds less than 20% because all of these activities that are included under administrative costs are vital to the intent of the Program -- to serve as an adjunct to health care and to provide quality nutrition education.

To help eliminate possible misunderstanding, the Association of State WIC Directors recommends renaming the category of administrative costs to direct services and operational costs, which will include nutrition/health assessments, nutrition education, and state/local program administration.

There has been some discussion of elimination of duplication of services with WIC and the Child Care Feeding Programs (CCFP). In Jefferson County, we feel that these two programs do not represent a duplication of services. WIC is a supplemental food program and we have professionals who work within the Program to tailor the WIC food package. When a child is identified as being in a CCFP Program, we take into consideration the food that he will receive through that program. In addition, WIC includes individualized nutrition consultation and education as major components; the other food assistance

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programs do not.

As a member of the Department of Agriculture's National Advisory Council for Maternal, Infant and Fetal Nutrition, I represent local metropolitan program directors, and I am concerned that the Council's input and expertise has not been elicited by the Department in this most important reauthorization year. The Council is mandated to submit biennially to the President and the Congress a written report of the results of our study of both WIC and CSFP Programs. We cannot fulfill our responsibilities when seven of the 21 positions remain vacant; since no meetings have been called by the Chairman (the Assistant Secretary for Food and Consumer Services) since last May; and as the Department has not provided the Council with adequate technical assistance.

In summary, I would like to ask the Committee to support:

-the $300 million supplemental appropriation for fiscal 84 and to pass such an appropriation within the next sixty days.

-the fiscal 85 budget be approved at the Congressional Budget Office minimum recommendation of $1.471 billion so that at least the current case load of three million can be maintained.

-a multi-year reauthorization; preferably for four years.

-the current Program definition of the population served.

-a maintenance of administrative funding at 20% and possibly a redefinition of this category.

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April 9, 1984 Hearing

STATEMENT OF HON. BOB DOLE
A U.S. SENATOR FROM KANSAS

The reauthorization of the special supplemental food program for women, infants, and children (WIC) will give us an opportunity to evaluate this very popular program for its effectiveness. Although it has fewer problems than most Federal nutrition programs, there may be ways it could be improved. In particular, since this program serves only about one-third of the potential eligible population, we need to make certain that available program benefits are being targeted to those women, infants, and children who are most nutritionally at risk.

WIC Has Escaped Budget Ax

Although most Federal nutrition programs have undergone at least one round of budget cuts, the special supplemental food program for women, infants, and children has fared very well by comparison. It is a reflection of is popularity and well-known effectiveness that, during a time when other programs were being cut back, the WIC program was maintained at a funding level that even permitted it to expand its caseload from 2.1 million participants in 1981 to 3 million participants in 1983. Back in 1981, the Federal Government invested about $890 million in WIC, and we are now spending about $1.4 billion on this very worthwhile program. WIC has earned the confidence of the Congress, and, as a result, enjoys strong bipartisan support. There are very few Federal programs that can bring to mind such an exemplary track record in terms of overall performance.

Program Effectiveness

Evaluations of program effectiveness reveal that, not only does WIC improve the nutritional status of low-income women, infants, and children, it is also cost effective. Nutrition is being increasingly viewed as a preventive medicine approach to health problems, and, since 1977, WIC has been providing nutritional benefits to one of the most vulnerable segments of our population.

Unlike some of our food assistance programs, WIC is a true nutrition program, whose benefits are tailored to meet the special nutritional needs of the women, infants, and children it serves. A major study conducted by the Harvard School of Public Health found that each $1 spent in the prenatal component of WIC save $3 in hospitalization costs due to the reduced number of low birthweight infants requiring expensive neonatal care.

Although the recent General Accounting Office's report has raised questions concerning the conclusiveness of WIC's positive effects, this GAO report included the following among its findings:

"We estimate that WIC decreases the proportion of low birthweight for infants born to women eligible for WIC by 16 to 20 percent. WIC's effect on mean birthweights also appears to be positive. . . . WIC mothers appear to experience greater benefit the longer they participate".

If we have a serious commitment to addressing problems of malnutrition in low-income women, infants, and children, the most cost effective way to do this is through early intervention--an approach presented by the WIC program.

Concluding Remarks

In accordance with WIC's built-in priority system, based on income and health criteria, the program is well targeted to those most at nutritional risk, even though only about one-third of the potential eligible population is currently being served. As we proceed with this reauthorization process, we should attempt to make any improvements which may seem necessary in what is already perhaps the most effective and popular Federal nutrition program.

STATEMENT OF C. RICHARD BLOUNT, PRESIDENT, NATIONAL ASSOCIATION OF WIC DIRECTORS

The National Association of WIC Directors represents the state agency WIC directors of all the fifty states plus 31 Indian tribal organizations, Puerto Rico, the Virgin Islands, Guam, and the District of Columbia. It was first conceived in 1979 as a national forum of dedicated program managers and other interested persons to act collectively on behalf of the Special Supplemental Food Program for Women, Infants and Children (WIC). It was officially organized by the adoption of its bylaws in November 1983 and the election of officers at its first national conference, February 6-9, 1984.

The functions of the Association include, but are not limited by the following specific functions:

A. To act as a resource for governmental bodies and individual legislators regarding issues particular to the health and nutrition of women, infants and children and to act as an advocate for WIC clients.
B. To provide good management practices to assist WIC Program Directors at the State and local levels.
C. To provide a national resource network through which selected ideas, materials, and procedures can be communicated to persons working in the WIC community.

The Association recognizes that, this the 10th anniversary year of the WIC Program, is one of its most critical years. Its legislative authorization expires September 30, 1984. Though federal funding of the Program has been relatively generous in the past, it must continually seek adequate funding even in years of high federal deficits.

As we celebrate its 10th anniversary, we commend the great accomplishments it has effectively attained since its establishment by a wise and concerned Congress faced with the probable effects of malnutrition in the lives of women, infants and children in our country.

Though the U.S. General Accounting Office's (GAO) most recent report on WIC evaluations released January 30, 1984 stated there was no "conclusive evidence" on the effects expected for the WIC Program, it did affirm that WIC evaluations did provide some favorable effects of the Program. Among the GAO findings were:

"We estimate that WIC decreases the proportion of low birthweights for infants born to women eligible for WIC by 16 to 20 percent. WIC's effect on mean birthweights also appears to be positive...WIC mothers appear to experience greater benefit the longer they participate."

"We conclude tentatively that teenage women and black women who participate in WIC have better birth outcomes than comparable women who do not participate in WIC."

"Participating in WIC may mitigate some of the effect of a mother's smoking, demonstrably harmful to infant birthweights."

"The available evaluative evidence is modest and preliminary but suggests that participation in WIC improves the intake of energy, protein, and some other nutrients for pregnant women, enhances the iron in their blood, and increases their weight gain."

"The limited evidence on anemia from the two studies of moderate quality suggests that WIC may reduce the incidence of anemia among infants and children."

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The Missouri WIC evaluation study cited by the GAO review as one of the most credible and qualitative WIC evaluations documented that: "For both nonwhite and white participants, the low birthweight rates were less than one-half of the rates for comparable non-WIC mothers." That is a particularly significant finding because infant mortality is the 12th leading cause of death in our country and a low birthweight infant is 20 times more likely to die than a normal one.

That the GAO report could not be more conclusive was not necessarily indicative of deficiencies within the Program. The "lack of conclusive evidence" was more a problem of the size of the studies (State studies vs. national) and particular methodological imperfections (difficulty of establishing a control group). The GAO, itself, refers to these problems in underscoring "the need to design and implement better studies."

Confident that the WIC Program has earned its place in the field of preventive health, the National Association of WIC Directors has chosen this means to address itself to the basic concerns of legislative authorization and funding as the Program begins its second decade servicing the health and nutrition needs of women, infants and children.

Herein is our statement of concern.

LEGISLATIVE AUTHORIZATION:

1. **THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS AND CHILDREN (WIC) SHOULD BE GIVEN PERMANENT AUTHORIZATION PRIOR TO SEPTEMBER 30, 1984.**

The National Association of WIC Directors (NAWD) earnestly believes that the Special Supplemental Food Program for Women, Infants and Children (WIC) should be granted permanent authorization. The logic for such belief is based on sound management principles and the need for administrative continuity. It is most disruptive for any program to have to deal with legislative and regulatory changes each year. In many cases, it takes the greater part of a year to implement such changes. It is especially disruptive to a program such as WIC wherein certification is valid for a six month period. By the time some of the changes are fully implemented in the first cycle of certifications, there is a cloud of uncertainity over those certifications made during the last half of a one year authorization. The overall effect produces at the local agency level a negative climate of uncertainity regarding program stability. For possibly the first time in its ten years of existence, WIC finally has a method of funding and a fairly well refined set of federal regulations which assure some continuity and reflect some degree of long range planning. Therefore, the Association, confident of the effectiveness and proven national acceptance of the Program, recommends permanent authorization.

2. **THERE SHOULD BE NO TARGETING OF PROGRAM BENEFITS BEYOND THE REVISED PROPOSED FEDERAL REGULATIONS ISSUED JULY 8,1983 (PAR. 246.7 (d)(4) ALTERNATIVE C).**

There are those who suggest that WIC should better target program benefits to "those most-in-need". The "most-in-need" generally connotes "those who are identified as exhibiting some type of medical, anthropometric, or hematological risk." This argument compromises the entire preventive nature of WIC. It argues that WIC should be primarily therapeutic in nature. We find this troublesome. During the past ten years, health care literature has continued to support the premise that prevention of health problems is cost-effective as well as humane. This has been shown in both the public and private sector. To limit WIC to therapeutic treatment would be short-sighted and would only contribute further to our current national dilemma, the continuation of spiraling health care costs.

The July 8, 1983 proposed Federal Regulations (Par. 246.7 (d)(4) Alternative C) governing the WIC Program provides for a priority system to manage caseloads. State directors believe that relatively slight revisions in that proposed priority system would ensure that those participants at greatest risk receive WIC services. Therefore, the National Association of WIC Directors recommend that there be no targeting of benefits beyond the revised proposed Federal Regulation.

3. NON-FOOD PROGRAM COSTS SHOULD BE DEFINED AS "DIRECT SERVICES AND OPERATIONAL COSTS WHICH INCLUDES NUTRITION/HEALTH ASSESSMENTS AND NUTRITION EDUCATION, PLUS LOCAL AND STATE ADMINISTRATION."

Those who propose to reduce the WIC Program administrative costs because they appear too high compared to other public assistance programs apparently have a misperception of what is included under program administration.

Indeed, "administrative costs" is really a misnomer since these also include payment for many client services such as nutrition/health assessments and nutrition education, plus local and state administration which includes safe-guarding accountability of federal dollars. If such a broad definition of "administrative costs" were applied to many health service programs, one could say their costs are 100 percent administration.

The National Association of WIC Directors recommends a redefinition of "administrative costs." Allowed non-food costs are better defined as:

> "Direct services and operational costs which include nutrition/health assessments and nutrition education, plus local and state administration."

4. THE MINIMUM FUNDING FOR DIRECT SERVICES AND OPERATIONAL COSTS SHOULD BE 20 PERCENT OF THE TOTAL GRANT.

The more definitive statement regarding direct services and operational costs, emphasizing the significant inclusion of client services, refutes the argument of high administrative costs. In fact, it can be more justly argued that the WIC Program is remarkably efficient. It provides more services than other programs at a lower cost.

To help stretch limited Federal direct services and operational cost dollars, State and local governments have contributed in-kind resources. A 1978 survey of State and local WIC Programs found that State and local in-kind contributions (staff, office spaces, etc.) comprised 13 and 40 percent of total State and local costs. However, as State and local public health budgets and Federal funds for maternal and child health services have shrunk over the past three years, the ability to provide in-kind resources to WIC has eroded. At the same time the purchasing power of direct services and operational funding has likewise eroded because health care costs have risen faster than food costs, the base of the 20 percent direct services and operational cost funding.

WIC directors are concerned about present and future cost containment. We believe that WIC Program services are an investment in preventing higher medical expenses. Studies in Massachusetts and Missouri have shown that infants of WIC participating women have lower medical costs than infants of comparable non-WIC women. These medical savings more than offset the costs of the WIC Program food and services. WIC not only promotes good health, it saves money.

These services can only be maintained if direct services and operational funds are sufficient to pay staff and to keep

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clinics open. The factors above have forced WIC managers and staff to retrench in providing services already. Any further funding restrictions will reduce the effectiveness of the WIC Program in serving needy women, infants and children and may ultimately lead to higher medical costs.

Therefore, the National Association of WIC Directors recommends that the minimum funding for direct services and operational costs be no less than 20 percent of the total grant. The Association believes that even a higher percentage is justified but it leaves that decision to the wisdom and good will of those who are empowered to decide.

5. **THERE SHOULD BE NO ESTABLISHMENT OF A LIMITATION ON "STATE AGENCIES" BASED SOLELY ON MINIMUM PARTICIPATION LEVELS.**

Those currently supporting a minimum size requirement for state agencies use "high levels of administrative cost" as the argument against small state agencies. In reality, the only state agencies likely to be affected by such a requirement would be those operating programs for Native Americans. If actual dollar amounts were reviewed rather than percentages, it would reveal that the number of dollars are relatively small. For example, if we look at the Miccosouk State Agency, we observe a direct services and operational costs/food ratio of 46.33 percent. But dollars reflect $34,309 for food and $15,131 for direct services and operational costs. We feel that limiting state agencies to minimum sizes would only affect services to Native Americans. Since Native Americans have unique nutritional needs and problems, we do not feel services to this population should be sacrificed for the sake of minimal affect (in real dollar amounts) upon direct services and operational monies.

6. **ADMINISTRATIVE TYPE RULES SUCH AS "PROCESSING STANDARDS" AND "PUBLIC HEARINGS" SHOULD BE PROVIDED FOR IN FEDERAL REGULATIONS RATHER THAN LEGISLATION.**

As state directors, we greatly appreciate the concern of advocacy groups that seek to more effectively control program management by writing detailed client safeguards into enabling legislation. We are equally concerned about possible rapid and dramatic deregulation which could erode the quality of the Program. As program managers, we see the question to be how to maintain quality control in the Program, without over controlling the Program so that it cannot be managed efficiently.

We are committed to ensuring effective, efficient benefits to participating clients in a most timely manner; however, we are troubled by what are sometimes unrealistic processing standards, particularly in smaller satellite clinics established primarily as a convenience to the clients, by providing services in close proximity to where clients live.

We are in favor of public input into state plans; however history has proven that legislated public hearings are not effective. Participation at hearings often involve less than five persons, with some hearings actually attracting no one.

It is the opinion of the National Association of WIC Directors that these administrative policies can better be addressed through Federal Regulations which can more effectively provide proper guidelines with greater flexibility. State agency directors are committed to the established goals of the Program and believe that with more flexibility they can pursue the attainment of the goals in a creative, responsible manner.

LEGISLATIVE FUNDING:

7. THE FULL COMMITMENT OF $300 MILLION FY 1984 SUPPLEMENTAL FUNDING SHOULD BE HONORED, WITH FUNDS PROVIDED FAR ENOUGH BEFORE JULY 10, 1984, TO AVOID PROGRAM DISRUPTION.

To avert a severe crisis in the summer involving the possible dropping of approximately 1,000,000 participating clients during July, August and September, the commitment of $300 million supplemental funding must be appropriated far enough before July 10, 1984 to avoid program disruption. The need is so obvious, WIC directors cannot rationally conceive that anything less than the full commitment of Congress will be provided. We commend the clear, definitive statement of the Congressional intention as expressed in passing the Continuing Resolution.

8. THE FY 1985 APPROPRIATIONS SHOULD BE SUFFICIENT TO ALLOW A 10-15% INCREASE IN WIC CASELOADS.

The National Association of WIC Directors applauds the past support which has been provided for the WIC Program. We believe the Program has proven the merit of such wisdom. As we look to the future and the beginning of the Program's second decade, we believe that its future funding must be related to both need and cost-effectiveness.

The Congressional Budget Office (CBO) has stated that $1.471 billion will be needed to maintain current WIC caseload levels throughout FY 1985. Obviously, the FY 1985 appropriations should be no less than that projected by the CBO.

However, we are sensitive to the great number of persons in need of the Program benefits and who are potentially eligible for Program participation which we cannot serve due to limited funding. We are equally aware of the necessary tension between program expansion and budget deficits. There is no easy course. Hard decisions must be made.

As state agency directors, we feel we would be irresponsible if we failed to emphasize the great need to expansion of the Program during the next few years in an orderly, reasonable manner. We recommend expanding the annual program authorization level by an amount equal to the determined inflationary increase plus 10-15 percent real growth per year. The real growth increase would complement the Department's present funding formula to establish equity based on need among the states and would permit limited growth in the stabilized state agencies.

This proposal is made in good faith that it will be a positive factor in controlling future deficits.

The GAO review of the most credible WIC evaluations led them to estimate "that WIC decreases the proportion of low birth-weights for infants born to women eligible for WIC by 16 to 20 percent." The Missouri study cited by GAO documented that "For both nonwhite and white participants, the low-birthweight rates were less than one-half of the rates for comparable non-WIC mothers." Further evidence of WIC's positive effect in preventing more costly long-term medical and health costs are cited within the GAO report.

It is true that the report stated there was no conclusive evidence on the effects of the Program though it did clearly state that "the information indicates the likelihood that WIC has modestly positive effects in some areas." That the GAO report could not be more conclusive was not necessarily indicative of deficiencies within the Program limiting its intended effectiveness. The "lack of conclusive evidence" was more a problem of the size of the studies (state studies rather than national) and particular methodological imperfections (such as difficulty in establishing a "control group"). The GAO refers to this problem

in underscoring "the need to design and implement better studies." It must be remembered that it was the studies cited by GAO for their quality and credibility that documented the positive outcomes referred to in this paper.

Thus, as directors, we believe that Program expansion providing positive benefits may contribute to significant savings in future medical costs. This would have a positive effect on reducing future deficits. We welcome the opportunity to be a partner in the national search for a resolution of our common fiscal problems.

9. **AUTHORIZATION FOR END-OF-YEAR FUNDING FLEXIBILITY, NOT EXCEEDING 3 PERCENT, SHOULD BE GRANTED TO PERMIT THE MOST EFFECTIVE MANAGEMENT AND UTILIZATION OF TOTAL FUNDING.**

Due to many uncontrollable variables, it is most difficult, if not impossible, to utilize 100 percent of funding without risking overspending during the last 30-60 days of the fiscal year or cutting participation in that period to prevent overspending. For a State to perform at less than 100 percent is to deny services to those who need program benefits. Likewise, to under-utilize total funding because of imprecise control over variables could be interpreted that Program funds are adequate or greater than need; and, could cause unwarranted reductions in future funding. Therefore, the National Association of WIC Directors recommends that the State agencies be authorized to exercise management flexibility for end-of-year funding to exceed the grant by no more than 3 percent without penalty.

10. **THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS AND CHILDREN (WIC) SHOULD CONTINUE AS A CATEGORICAL PROGRAM RATHER THAN BEING FOLDED INTO A BLOCK GRANT.**

The National Association of WIC Directors has testified twice before Congressional Committees against consolidation of WIC and the MCH Block Grant (the Senate Subcommittee on Nutrition, February 22, 1982 and the House Subcommittee on Elementary, Secondary, and Vocational Education, March 17, 1982). The points raised in the testimony still apply and have been reaffirmed by the Association. We stand firmly on our belief that WIC's continued support has been a result of its ability to be identified as a specific service and to account for its effectiveness upon the nutritional well-being of women, infants and children. To those of us convinced that WIC will continue to prove its impact upon the health of our nation's children, such identity is imperative.

The National Association of WIC Directors has sumitted these recommendations as a resource for governmental bodies and individual legislators with confidence that their consideration and adoption will enable the Special Supplemental Program for Women, Infants and Children (WIC) to effectively continue as one of the most successful preventive health programs ever established by Congress. As directors we commit ourselves to responsibly manage the Program and safeguard the accountability of Federal funds in order to provide maximum benefits to those women, infants and children who are at nutrition risk in our country.

ADDENDUM

Department of Agriculture
Food and Nutrition Service

7 CFR Part 246

Special Supplemental Food Program
for Women, Infants and Children

Proposed Rules, July 8, 1983

The following is a revised form as suggested by the National Association of WIC Directors:

Par. 246.7(d)(4) Alternative C - -

The following nutritional risk priority system shall be used by the competent professional authority to fill vacancies which occur after a local agency has reached its maximum participation level. The State agency may set income or other sub-priority levels within these three priority levels:

Priority 1. APPLICANTS WITH SPECIAL NUTRITION CONDITIONS. Such conditions shall be based on any combination of anthropometric or hematological measurements, other medical conditions, dietary factors, or age, as determined by the individual State agency.

Priority 2. PREGNANT AND BREASTFEEDING WOMEN, AND INFANTS, OTHER THAN THOSE WHO QUALIFY AS PRIORITY 1.

Priority 3. CHILDREN, OTHER THAN THOSE WHO QUALIFY AS PRIORITY 1.

Priority 4. POSTPARTUM WOMEN, OTHER THAN THOSE WHO QUALIFY AS PRIORITY 1.

STATEMENT OF STANLEY N. GERSHOFF, DEAN, SCHOOL OF NUTRITION
TUFTS UNIVERSITY

My name is Stanley Gershoff and I am the Dean of the Tufts University School of Nutrition. Before I joined the Tufts' faculty 7 years ago I was a member of the faculty of the Department of Nutrition at the Harvard School of Public Health for 25 years. Over the years I have had a strong interest in public health nutrition and the development of applied programs designed to improve the health and nutritional status of people in the United States and underindustrialized countries of the world.

I am here today to testify in favor of the Special Supplemental Program for Women, Infants and Children. Among the large federally supported food assistance programs the WIC program is unique. It not only provides food but also nutrition counseling and health care. This program which is directed to Americans at great risk has been demonstrably effective during its 12 years of existence. It is not surprising that it is so popular among health professionals and those who receive its benefits. As is true with other assistance programs it represents an American characteristic of which we are all proud: that our expressed concern for the needy is not simply rhetoric. However, the WIC Program can be justified not only on humanitarian grounds. It is an extremely well-conceived program. It provides demonstrable health benefits and, I believe, is cost effective, a fact which ought to bring a smile to government economists and political decision makers.

Recently the GAO partially evaluated 39 studies of the effectiveness of the WIC Program which have been conducted in various parts of the United States during recent years. I was delighted that the work done by Dr. Eileen Kennedy in Massachusetts, with which I was associated, was selected as one of the six studies in whose conclusions the GAO was confident. WIC has been effective in improving the nutritional status of both mothers and children. It has been effective in preventing anemia, in stimulating growth in infants, in increasing birthweights and most importantly in decreasing the number of low birth weight infants by about 20% in the studies reported. One must agree with the GAO conclusion that "data on the birthweight question are substantial." Low birth weight babies have more developmental problems than others and as a group have more health problems as they grow older than the rest of the population. By low birth weight, I mean infants under 2500 grams, a little less than 5.5 pounds. The smaller babies are at birth, the longer their initial stay in the hospital. Using hospital costs about 6 years ago Dr. Kennedy showed in the Massachusetts population she studied that for every dollar spent on WIC a savings of about 3.1 dollars in hospital care was achieved. It is not often that data have been presented showing that an assistance program is cost effective.

I find it disconcerting that there is a tendency in government reports to dull the impact of their conclusions with poorly selected adjectives. Thus the President's Task Force on Food Assistance recently concluded that there was hunger in America but it was not "rampant hunger." This is of little consolation, I suppose, to those who are hungry. The GAO evaluation which documents the reported positive effects of WIC states over and over again that

there are not enough data to make conclusive judgements about WIC's effectiveness overall. Indeed there is a need for more data so that conclusive judgements can be made. However, the data which are currently available are sufficient to make a presumption that the WIC Program is effective. Additional data would not only provide more information concerning WIC's effectiveness but would point up ways in which it may be improved.

As nutritionists we have been grateful that support for food assistance programs over the years has been clearly bipartisan. In 1969 President Nixon convened a White House Conference on Food, Nutrition and Health at which I had the privilege of chairing the panel concerned with Systems of Delivery of Food and Money for Food. It was a major recommendation of our panel that money be authorized for annual evaluation, research and development of the child feeding programs. Not only was this recommendation accepted but a year later the USDA reported that from its inception comprehensive evaluation would be included in the WIC Program. Thus it is disappointing that after so many years so little evaluation has been carried out on this major program which cost more than 1.1 billion dollars last year. Evaluation does not have to be super expensive. Dr. Kennedy's studies cost only $4000 from the USDA, the voluntary support of our faculty and some school funds.

Clearly a difficulty in evaluating the WIC Program from the existing data is that there are more than 1500 local WIC projects administered by state health departments and approved local clinics. These projects operate through 84 state agencies and Indian tribes. It boggles the mind to consider the difficulties in evaluation and administration which will arise if all food assistance programs are replaced by block grants as has recently been recommended.

I would conclude by stating that while more data would be valuable those available clearly support the presumption that WIC is an effective nutrition, health program which deserves continued support. To paraphrase the advertizers, "We can pay now or we can pay a lot more later."

STATEMENT OF DR. BAILUS WALKER, COMMISSIONER, DEPARTMENT OF PUBLIC HEALTH, BOSTON, MASS., AND DR. BERNARD GUYER, DIRECTOR, DIVISION OF FAMILY HEALTH SERVICES

Mr. Chairman, members of the committee, thank you for this opportunity to testify on nutrition and, in particular, on the Women, Infants, and Children Special Supplemental Food Program (WIC). To aid your deliberations on reauthorization of the WIC program we will:

1. Review the 1983 Massachusetts Nutrition Survey;
2. Discuss the programs implemented in Massachusetts in response to the findings; and
3. Discuss Massachusetts' experience and other evidence relevant to the need for WIC reauthorization at a higher funding level to allow more women, infants, and children to participate.

I. MASSACHUSETTS NUTRITION SURVEY

In 1983, Massachusetts was faced with reports from pediatricians of clinical cases of malnutrition among children. Additionally, many individuals were concerned about the impact of federal budgets cuts, increasing unemployment, and the re-emergence of hunger and homelessness in our state. The Massachusetts Legislature raised questions about these reports.

With funding from the Legislature, the Department of Public Health responded to these concerns by conducting the 1983 Massachusetts Nutrition Survey. The survey was intended to complement clinical information and anecdotes by defining the level and type of malnutrition and by identifying high risk groups.

The methods used for the Nutrition Survey can be summarized as follows:

- We studied 1,429 low-income children between the ages of 6 months and 6 years who attended health centers in 20 cities and towns across the Commonwealth.
- We measured and weighed children and collected recent laboratory information from their medical records.
- We assessed three types of malnutrition using standard public health

nutrition indicators: a) height-for-age below the 5th percentile was used as a measure of chronic undernutrition; b) weight-for-height below the 5th percentile was used as a measure of acute undernutrition; c) hematocrit below 33% for children under 2 years and below 34% for children 2 to 6 years was used as a measure of anemia.

The results of the Massachusetts Nutrition Survey make it clear that malnutrition has not been eliminated.

- We found that 9.8% of children had height-for-age below the 5th percentile, nearly double the expected number. Low height-for-age may reflect chronic, long term nutritional deprivation or reduced genetic potential for growth. The level of low height-for-age was highest among the white children in the sample (11.3%) and they were worse off than either black children or Hispanic children. Projecting our age and race specific rates to the state as a whole leads to an estimation of 10,000 to 17,000 chronically undernourished children under age 6 in Massachusetts. There is good evidence that chronic undernutrition adversely affects a child's ability to learn and to fight infection.

- We found that 3% of children had a weight-for-height below the 5th percentile. It would have been extremely suprising to identify a high level of wasting due to acute malnutrition in this population. Nevertheless, there were children in the group diagnosed as failure-to-thrive, and this is an important population that requires clinical services.

- We discovered 12.9% of children to be anemic. Anemia is always abnormal and most often related to iron deficiency.

- Although we had only a small group of Asian children, including southeast Asian immigrants, they appeared to be a particularly high risk group. 15.7% were low height-for-age and 11.8% were acutely undernourished. Since this is a small group, it does not bias overall findings of the Massachusetts survey.

- The poorest children had the highest percentage of low height-for-age. For those below 100% of the poverty level, the proportion was 10.5% compared to the observed 5% for children above 200% of poverty.

In addition to these findings about the extent of malnutrition and the groups of

children at highest risk, we also obtained information on how many of these children were receiving public assistance.

- o Using family income levels as an approximation of financial eligibility, our data indicated that many of the sampled children were not receiving benefits even though they seemed to be financially eligible. 32 percent who appeared financially eligible for food stamps were not getting them.
- o 18 percent who appeared financially eligible for Aid to Families with Dependent Children (AFDC) were not obtaining the cash payments.
- o 54 percent who were financially eligible for the Women, Infants, and Children supplement food program (WIC) were not enrolled.

This last finding is not suprising, and is actually a high participation rate when compared to WIC's statewide participation rate. At the time of the survey, WIC reached only 19 percent of financially eligible children aged 1 to 5 in Massachusetts. The higher participation rate in this sample may reflect WIC's success in outreach to poverty-level families served by community health centers.

Unlike the AFDC and food stamps programs, which are entitlements, WIC has never had enough money to serve the entire eligible population. To qualify, women, infants, and children must be at nutritional risk as well as financially eligible. In the survey sample we found that 15% of the children who were both financially eligible and who had documented nutritional deficiencies were not enrolled in the WIC program. Extrapolating these findings to the entire state, we estimate that an additional 10,000 children who already show signs of malnutrition should be enrolled in the program.

We are absolutely convinced that the findings of the Massachusetts Nutrition Survey indicate a significant nutrition problem among low income children in Massachusetts.

- o The findings are consistent with CDC surveillance data from other parts of the country showing that poor children have higher levels of low height-for-age and anemia.
- o The data are consistent with an enormous body of literature that shows that poor children grow less rapidly than wealthier children of the same genetic stock and that as populations grow more affluent, their children

get taller.

- o Finally, while the survey design was not perfect (there were practical constraints of funding, time, and personnel limitations), the findings cannot be explained by some chance sampling of populations that are unusually genetically growth retarded. The sample is large enough to be stratified into important racial and ethnic groups and there is no reason to believe that these groupings are systematically biased.

II. THE MASSACHUSETTS PROGRAM FOR UNDERNUTRITION

Faced with the findings of the Massachusetts Nutrition Survey, the state legislature worked closely with the Governor to develop an emergency supplemental budget package of $6.6 million for state fiscal years 1984 and 1985 to address these problems. The supplemental funding included:

- o Outreach efforts by the Departments of Public Health and of Public Welfare to enroll more eligible families in WIC, Food Stamps, EPSDT, and AFDC.
- o State funds to expand WIC participation by 20,000 persons, including an additional 10,000 high risk children.
- o Specialized nutrition programs for Southeast Asians
- o Additional funding for specialized activities like failure-to-thrive programs, clinical services for the prevention of low birth weight, and increased efforts to prevent childhood lead poisoning.

III. WIC: AN EFFECTIVE PROGRAM FOR ADDRESSING MALNUTRITION

Massachusetts decided to channel its maternal and child nutrition efforts through the vehicle of the state WIC program for the following reasons:

- o The WIC program targets food and nutrition education to the groups most vulnerable for undernutrition, i.e., pregnant low-income women, their infants who are at increased risk of low birth weight, and young low-income children.
- o WIC is not merely a supplemental food program; it is a health program with goals and objectives related to the reduction of low birthweight and to the promotion of optimal growth and development in young children.

Food packages are individually tailored following medical and nutritional assessments of specific needs. The program requires that health services be provided by a health agency or by an agency with strong ties to a health care provider to ensure that the at-risk woman, infant, and child population receive comprehensive integrated health services. In Massachusetts and many other states, WIC services are provided by the same local agencies that deliver Title V maternal and child health prenatal and pediatric care.

- WIC is the best available mechanism for us to reach this target population and to address their nutritional concerns. As a state agency, we now have 10 years of experience in administering WIC. Administrative and clinical systems are in place which can rapidly funnel additional funds to populations in need.

While evaluations of WIC's effectiveness in achieving its health goals are not entirely conclusive, we believe that the evidence, particularly in regard to reduction in low birthweight, is definitely strong enough to support the need to maintain the program. In its recent review, the General Accounting Office (GAO) found that the six studies of the relationship between WIC and increased birthweight were of medium to high quality, and gave support to the program's effectiveness in increasing birthweight. The GAO further found that WIC had a greater positive effect on teenagers, blacks, and those with several health and nutrition related risks. GAO found evidence to suggest that participating in WIC for more than 6 months is associated with increased birthweights. If WIC were funded at an adequate level, women could be maintained on the program for a longer period of time.

For the same reasons that Massachusetts chose WIC as the vehicle for addressing chronic undernutrition among children, we believe that the federal government must expand its commitment to this critical program. We urge that funding for the WIC Program be, at a minimum, $1.36 billion for FY '84, $1.55 billion for FY '85, and $1.70 billion for FY '86.

There are three additional issues which are relevant to the Committee's concerns about nutrition:

First, for historical reasons, the Massachusetts WIC program always served a low

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proportion of eligible population. This was confirmed by the findings from the nutrition survey that 15 percent of the entire sample were both financially eligible and had nutritional indicators but were not enrolled in the WIC Program. We used these data to project a needed expansion of 20,000 participants (includes both pregnant women and children) for our state WIC Program and funded this expansion with state funds. We believe that the U.S. Department of Agriculture should develop a methodology to guide expansion on a national level to those in need of supplemental food immediately.

Second, while the USDA has indicated a commitment to equity funding, that is, equalizing participation levels across the states, this can only be achieved fairly by an adequate appropriation increase so that no state is penalized.

Third, in thinking about the better targeting of WIC benefits, we believe that this committee should carefully consider the preventive aspects of WIC as well as its therapeutic aspects. When the WIC Program is under funded, the priority system dictates that children who are already showing signs of malnutrition receive WIC benefits before those who are at risk of malnutrition but who do not yet have signs. Thus, at low levels of funding, the WIC Program acts as a treatment program rather than a program of prevention. While this is important, we feel that expansion of the WIC Program and adequate national funding will allow it to retain the preventive character which was intended in its original legislation. The close ties between WIC Programs and maternal and child health programs will help assure this goal.

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IV. SUMMARY

In summary, we urge you to reauthorize the WIC Program at an increased funding level which, at a minimum, guarantees that every high risk woman, infant and child, regardless of state of residence, receives the nutritious food, counseling, and adjunct health care which the program provides. We urge funding at levels no less than $1.36 billion in FY '84, $1.55 billion in FY'85, and $1.70 billion in FY '86 so that the program can function as the preventive program it was intended to be. Massachusetts' experience in evaluating WIC's effiency, in studying the nutritional status of poor young children, and in administering the WIC Program, have convinced us that the program is a key and necessary tool for reducing the infant mortality rate and promoting the optimal growth and development of our children. We hope that your review of all the testimony presented here today will convince you of that as well.

STATEMENT OF ELOISE JENKS, DIRECTOR, WIC PROGRAM, PUBLIC HEALTH FOUNDATION OF LOS ANGELES COUNTY, CALIFORNIA

Senator Dole, Members of the Nutrition Subcommittee, Ladies and Gentlemen:

I am very happy to have this opportunity to address this committee about WIC Reauthorization. I am the director of the WIC Program for the Public Health Foundation of Los Angeles County, a private non-profit corporation. I am a Registered Dietitian and Nutrition Educator. I have directed the PHF WIC Program for eight years as it has grown from serving 2500 clients in 1976 to serving 50,000 clients in 1984. In March of 1984 PHF WIC served 23,000 women, 20,000 infants and 4400 children.

PHF WIC serves a multi-ethnic population of approximately 70% Hispanics, 10% Blacks, 10% Caucasians, and 10% Southeast Asians. Most of the WIC clients receive health care from the County of Los Angeles Department of Health Services, while other clients receive health care from private health providers.

From the perspective of a large urban WIC Program, I am glad to tell you that the WIC Program is providing nutrition services to a very high risk population of women, infants and children. Each client receives education and counseling appropriate to her need. All of the PHF WIC staff are bilingual. Clients are served in English, Spanish and eight Chinese and Southeast Asian dialects.

Each year we survey our participants for their comments and input on the WIC Program. Some results are:

91% say the WIC Program has taught them how to feed their family better.
2/3 say the WIC Program helped them decide to breastfeed.
2/3 say the WIC Program taught them how to feed their babies correctly.

The PHF WIC Program is proud of the breastfeeding component of the nutrition education and counseling program. A class promoting breastfeeding is presented to all prenatal participants. Every woman is individually counseled during pregnancy about making plans to breastfeed her infant, and is counseled after delivery to help resolve any problems she may have in establishing or maintaining breastfeeding.

PHF WIC has a strong training program for all staff to emphasize breastfeeding. When PHF WIC began eight years ago very few clients were breastfeeding; now seventy percent of our WIC clients initiate breastfeeding. This trend follows that of the more affluent, educated population and is at least partially due to the education and support WIC provides. Breastfeeding is the best nutrition and nuturing for young infants. Especially the low income infant benefits from the immune properties of breastmilk. This protection received from the breastmilk helps save money for sick care including hospitalization. Of course, not only is breastmilk the best food for an infant, it is also less expensive.

As you have heard in other testimony the term "administrative costs" includes many direct service expenses including nutrition and health education, dietary and health assessment, nutrition counseling, referral of clients to drug treatment, referrals to school and social services for the adolescent mother, referrals concerning child neglect and abuse. Nutrition and health surveillance, quality assurance, vendor education and vendor monitoring are all essential administrative costs needed to maintain WIC's integrity.

In California the food distribution is through a very cost efficient market system. California has a strong vendor monitoring and control system. This eliminates fraud and abuse and saves food dollars. It is important to the local agency that clients get the foods specifically authorized by WIC. We strongly support the vendor control program. A decrease in administrative funds would jeopardize the ability for California to control the cost of the WIC food package.

All of the services mentioned as administrative costs are essential so that the WIC Program can be targeted and available for the highest risk population. I urge that these costs be maintained as twenty percent of the WIC authorization.

The highest risk clients, i.e. pregnant and breastfeeding mothers and infants with medical/nutritional problems require individual care and frequent contact with the WIC staff. This means that it is more expensive to serve the higher risk client. The highest risk client, of course, benefits the most from WIC services and ultimately saves the most health care dollars.

I want to give you an example of the risk levels of the clients served by WIC. Last Wednesday I took a visitor to the Edward R. Roybal Comprehensive Health Center in East Los Angeles. The first client we saw was a Hispanic lady whose last baby weighed two pounds seven ounces at birth. We believe that WIC will be able to help the client's status during this pregnancy.

At the San Gabriel Valley Multi-Service Center later that same morning, the first client we saw was an eighteen year old who was on WIC during her pregnancy, and had just delivered a healthy baby. This mother is very high risk due to her age and that she doesn't read or write.

The PHF WIC Program serves about 3.5% of all the women served by WIC nationally. We have targeted all outreach for women during the past eight years. We know that there are many more low income high risk women who should be served by WIC in Los Angeles.

WIC should be funded adequately to serve all the low income high risk women and infants. These groups benefit the most from the short term intervention of WIC. These groups should receive WIC services as early as possible so that the preventive aspects of WIC will be given the greatest opportunity to benefit each individual.

WIC has proven that it meets a real food, nutrition and health need of particularly vulnerable groups in this nation. A four year reauthorization will provide continuity of services to the individuals benefiting from WIC. The funding uncertainties due to more frequent reauthorization legislation would be very costly administratively and disruptive to the States and the local agency staffs and especially to the clients.

We are proud that we provide good services to clients, but annual questions over who is currently eligible are very difficult for clients and the community to understand.

I would like to address the issue of children on the WIC Program. The PHF WIC Program serves relatively few children. Children over twelve months of age make up about ten percent of our caseload. Even so, we served 4400 children in March, 1984. These children are high risk. The child is usually a participant for only twelve months. Goals are set for the client to improve his nutritional status, such as having a normal hematocrit or following an acceptable growth curve. There is definitely a need for some children to be served by the WIC Program. I believe that it should be left to the State and the local agency to set reasonable time frames for a child's participation in WIC. The duration of WIC participation should depend on the problems of the child and WIC's ability to help mediate those problems.

I would like to comment on the issue of whether WIC should be part of the Maternal and Child Health Block Grant or be maintained as a categorical program within USDA. I strongly believe that the effects of WIC would be quickly lost when the competing demands upon a local agency or State could determine that the enormous cost of crippled children's services or newborn intensive care nurseries are so urgent that the ever limited resources be allocated to tertiary health care.

The Congress has been very wise to keep WIC a separate, preventive program. We know that WIC ultimately saves money by preventing the need for tertiary care expenditures.

Because food is a vital and costly part of the WIC Program, it is essential that USDA monitor vendors in conjunction with other food programs. It would be very expensive and difficult for MCH to develop and administer such a program. It is important that WIC be maintained as a separate, categorical program administered by USDA.

In summary, I feel that WIC should be maintained with USDA as a separate, categorical program. The current reauthorization should be for at least four years. The proportion of costs in food and services should be maintained for program integrity. The program should be authorized to serve pregnant, breastfeeding and post-partum women, infants and children to five years of age.

Statement of Diane Dimperio, M.A., R.D.
Associate in Obstetrics and Gynecology
Director of Nutrition Services
University of Florida, Gainesville, Florida

Thank you for the opportunity to appear here today. I am pleased and flattered to be part of these hearings. I am the coordinator of the North Central Florida WIC program that currently serves about 4,700 participants in 13 rural counties.

I will be addressing the following issues from the standpoint of a direct service provider: (1) WIC effectiveness: including funding levels and nutrition education allocation; importance of funding other programs related to WIC. (2) Targeting benefits: including the priority system, definition of nutrition risk, and the unmet need. (3) Food package.

EFFECTIVENESS

The evaluation of the effectiveness of the WIC program is a topic of debate. Experts have addressed, and will continue to address, the issue. Their comments are already entered into this record; therefore, only brief comments not previously made will be presented.

Several of the studies cited by the GAO report on evaluations of WIC had nothing to do with evaluating the WIC program; but, instead, were papers dealing with some issue related to WIC. The fact that no conclusion can be reached on the effectiveness of WIC on the basis of these data is not surprising. Many of the other studies were not funded and were done as either graduate student projects or as an in-house study by service providers. That these reports are not methodologically rigorous should, also, surprise no one. The time to do a methodologically sound evaluation of WIC has long passed. A good, prospective, well-controlled study could only have been done as the program was being implemented. All studies done now can be criticized because they will be retrospective or lack good controls. The lack of good methodology of evaluation studies should not be interpreted as a lack of effectiveness of the program.

To a direct service provider, the effectiveness of WIC is obvious. Nurses who worked in public health before and after WIC comment that babies are clearly healthier since the inception of WIC. We see pregnant women improving diets after counseling and children with more energy and fewer colds after the resolution of anemia. We receive letters from grateful parents who have seen WIC make a difference in their children.

The WIC program improves the nutrition status of its participants, both directly and indirectly. It provides nutrition counseling and food tailored to the risk condition of the individual WIC participant. The education of other health professionals in nutrition assessment and management heightens their awareness of

nutrition problems and promotes early referrals and consistent nutrition management throughout the medical team.

The effectiveness of WIC depends on adequate funding. The program has been criticized as having a high administrative cost compared to other public assistance programs, however, the WIC program is not a public assistance program. It is a health care program in which food is given as part of nutrition intervention in the same way one might receive antibiotics from a public health clinic. Public assistance programs typically provide cash benefits of a much greater dollar value per client and thus the percent of administration costs per benefit dollar is, of course, lower.

It might be of interest to review WIC program costs from a local level. Table 1 summarizes the annual costs of running the North Central Florida WIC program. This would not be typical of all local programs because of the high cost we incur in travel and telephone charges required to serve 13 rural counties. It is, however, an example of how "fat free" the WIC budget is. There are no costs which are not integral to the maintenance of a quality program.

A review of this budget also serves as an example breakdown of "administrative costs". In addition to food, the WIC client receives the benefits of nutrition assessment (certification) and counseling. Nutrition assessment is a benefit that is often overlooked and simply lumped with administrative costs. It is, however, a direct benefit to the client who would not, and probably could not, pay for a clinic or private nutritionist to assess her own and her child's nutrition status. Nutrition assessment and counseling provided through a private consultant would cost $50.00 or more. The estimate in Table 1 for the cost of certification is low because part of it is buried in the administrative component of nutritionists' salaries.

Table 2 shows that 88% of the WIC dollar is spent on direct benefits to the client, thus the cost of the program administration is 12%. The administrative cost of the public health care programs, with which we are affiliated at the University of Florida (Maternity and pediatric care and family planning services), is 14-16%. The outpatient clinic, in the teaching hospital that provides health care services to both private and public patients, has an administration overhead of 25% or more. These types of health care programs have no record-keeping procedures as elaborate as those required for WIC certification and voucher issuance. One could, therefore, conclude that WIC administrative overhead, by comparison, is very low.

The requirement that one-sixth (17%) of non-food dollars be spent on nutrition education should be retained. The North Central Florida WIC program gives a high priority to nutrition education. Approximately 33% of the non-food dollar is spent on education. Our local agency is affiliated with a variety of other health care programs that provide services to high-risk pregnant women and infants. These programs fund a total of 2.5 nutritionists who are specialists in their field, and who provide education tailored to

the specific condition of these patients. The majority of these patients are also certified for WIC. The nutrition activities are coordinated so that WIC nutritionists have more time to spend with patients who are in the public health system. With this level of WIC and special funding, (30% plus 12% equivalent additional funding), we can spend only an average of about 10 minutes counseling each client. This is barely adequate time and any less would be unacceptable. From this example, it is apparent that there must be a minimum of one-sixth of non-food dollars allocated to nutrition education. The current law authorizing WIC specifies that less than one-sixth of WIC funds may be designated for nutrition education, if the state can document that other funds will be used to conduct these activities. From the above example, it is clear that this is inappropriate. Different programs are funded to provide specified services to a particular target group, and when target groups overlap, nutrition services should be coordinated and not reduced.

The WIC program was designed to be an adjunct to other health services, by providing nutrition support including prescribed supplemental foods. WIC operates best when it is fully integrated with health care so cuts in funds for maternal and child health decrease the effectiveness of the WIC program. It is sometimes impossible to distinguish malnutrition from medical problems. There is a complex, and sometimes subtle, interaction between the two. For instance, a nutritionist, operating without adequate health services, is not able to accurately distinguish between anemia caused by sickle cell, lead toxicity, parasites, and simple dietary deficiencies. A child's poor growth could be caused by either inadequate caloric intake or underlying metabolic disturbances. Medical conditions and nutrient deficiencies often coexist. Medical assessments are required to determine if nutritional deficiencies are primary or secondary in the etiology of a problem. A decrease in funding for medical care will eventually overburden local WIC professionals with responsibility beyond our capability, and will eventually decrease overall effectiveness. The Food Stamp program has been criticized, but it does provide baseline nutrition support for many families who are also on WIC. If an adequate food budget is lacking and WIC provides the majority of nutrients a family receives, the supplemental nature of the program will be lost and the program goal will be defeated. The health of our vulnerable target group is a three-legged stool propped by WIC, health services, and an adequate food budget.

TARGETING BENEFITS

The current priority system is well designed from both a nutrition and an application standpoint. Since a wide variety of health professionals are involved in certifying WIC clients, a simple system is beneficial because it promotes a better understanding of eligibility criteria.

In a situation in which state allocations are based only on calculation of need, Alternative C (as defined in the proposed rules of July 8, 1983) is desirable because it allows each state to identify and serve its own risk groups and promotes better integration with local health services. Calculated funding allocations

are ameliorated by stability funding based on case load and priorities served. In this case, Alternative C will create a disparity among the people served nationwide. For instance, more liberal states may define a pregnant woman with an inadequate diet history, or a child with a hematocrit of 35%, as a Priority I, whereas, in more conservative states such as Florida, the pregnant woman would more likely be assigned a Priority II and the child would probably not be served at all (or possibly as a Priority III). As long as states are competing for funds, a more structured priority system will produce the fairest national distribution of funds. The current system is very good and works well on a local level. I suggest it be retained with only one modification: The addition of high-risk postpartum women to Priority V.

Funding for the WIC program should be maintained so that the top 5 priorities are always served and Priority VI is usually served. The concern that WIC benefits are not properly targeted if less than 50% of all clients are in the top two priorities demonstrates a lack of appreciation for the role that nutrition plays in growth and development and an overrating of the assessment capabilities that the WIC program is able to support. The prenatal period and first year of life are, indeed, the time of most rapid brain and organ growth. Malnutrition during this time period can result in catastrophic and irreversible results. Once brain cells and other organs are developed, they must be maintained. Caloric undernutrition and iron deficiency after 12 months of age are associated with lethargy, poor developmental progress, decreased resistance to infection, and a decreased ability to learn. These conditions will interfere with the development of the appropriate language, motor, and cognitive skills for age. This early learning deprivation sets the stage for continued poor performance. An infant or young child who has received good nutrition in early life, and is then subjected to malnutrition at 2 years, is not likely to reach full mental capability. Priorities I, II, and III are women, infants and children who are suffering from conditions consistent with a diagnosis of malnutrition. They are all high risk and should be served by WIC.

Women, infants and children who are at risk due to poor diet history may be a lower priority, but are also at risk, and as such should be served by the WIC program. This is the preventive component of the program and is probably the most cost-effective in terms of human potential. Dietary assessment detects incipient deterioration due to malnutrition before the symptoms become overt. There is a continuum between optimum nutrition and clinical malnutrition, with reductions in weight, height, and hemoglobin, representing end-stage malnutriton. Pre-clinical stages of malnutrition include depletion of stores, reduction of activity and reaction times, and reduced blood level of nutrients. These conditions cannot be identified by most health agencies because required laboratory tests are too expensive. A diet history is the only cost-effective method available to detect biochemical deficiencies. Diet history methodologies are subject to criticism and cannot perfectly predict biochemical values, but in the HANES-I study it was found that the majority of people with low serum vitamin A, thiamin, riboflavin and iron also had dietary histories low in these

nutrients, and conversely, most of the people who had diet histories adequate in these nutrients had adequate blood levels. It is cheaper and more humane to prevent, rather than treat, overt malnutrition.

Postpartum women should be served whenever possible. Preteens and women who had a major problem, such as a low birth weight infant, should be a higher priority than others. Nutrient stores have been depleted by pregnancy and need to be replaced. WIC participation also encourages participation in family planning.

Funding that is adequate to serve all priorities helps to ensure that the higher priorities are served. In spite of program outreach efforts, the most effective communication mode for a majority of our clients is by "word of mouth". When lower priorities are turned away, the number of requests for WIC decreases. When Priorities IV and V are not served, it may discourage higher priority clients from applying.

There is great concern regarding the need that WIC is not meeting. In our rural 13-county area, it is estimated that there are over 6,000 potential clients who are not served. Based on current applicants, we think many of these are high-risk clients who could benefit from the WIC program and participation in health care. Even among clients who are certified, approximately 20% do not pick up their WIC vouchers. Transportation is a major impediment to participation in WIC or any health care program in a rural area. The regulations identify transportation to clinic as an allowable cost, but as this cost is often $10 per person, it is not practical. The 20% limitation on administrative costs restricts the WIC program to providing to those who can be served in the most cost-effective way. We would like to provide WIC services in many small towns, but the number of clients served per administrative dollar is too low. The isolated women, infants and children in our rural are, and apparently will remain, too expensive to serve.

FOOD PACKAGE

The current food package is well designed to meet the current target nutrients. Iron nutriture has been a concern in public health because of the high incidence of anemia. Current research indicates that folic acid deficiency may be more common than iron deficiency and may be responsible for a significant percentage of anemia. This was shown to be the case in my local project and was reported in one of the studies reviewed by GAO. Poor folate status is also associated with reduced birth weight. The administrative difficulty in adding fresh fruits and vegetables to the program would prove overwhelming, but the use of folate-fortified cereals and folate-rich juices is a viable alternative.

Since the WIC program is supplemental in nature, it should not attempt to meet the total nutrient needs of its participants, with one possible exception. Infants who have severe problems with digestion or absorption are often put on special pre-digested formulas. This problem is usually a transient condition, lasting two to

three months. These two or three-month-old infants often need more than the current allowance of infant formula. Due to the high cost of $9 per can, parents, who are often paying expensive medical bills at the same time, may not be able to purchase extra formula. It would be desirable to have the option to provide extra formula to these select infants.

Professionals should have the option to tailor foods to the needs of individual clients; however, many programs routinely provide non-fat milk to their pregnant women. The conditions of underweight at the onset of pregnancy and inadequate pregnancy gain are paramount in the etiology of low birth weight. Even for the obese woman, caloric restriction in pregnancy is contraindicated. The difference in calories between skim and whole milk amounts to 200 kcal per day, if 24 ounces of milk are consumed. Since a lack of calories is often one of the limitations in the diet of pregnant women, this difference is significant. Pregnant women should, as a general rule, be given only whole milk in their WIC food package.

SUMMARY

This testimony addresses the following points:

1. Criticism of the methodologies used in WIC evaluation studies cannot be interpreted to mean the program is not effective.

2. The WIC program is effective in improving nutrition status of target groups.

3. Funding levels for non-food costs should be maintained at a minimum of 20% of food costs.

4. At least one-sixth of non-food WIC dollars should be designated for nutrition education.

5. All Priorities identified by the WIC program are at nutritional risk and should be served by the program.

6. Substantial numbers of high-risk women, infants, and children are not served by the WIC program because of funding limitations.

Table 1
NON-FOOD BUDGET EXPENSES
NORTH CENTRAL FLORIDA WIC PROGRAM (FY 1984)

ITEM	NUTRITION EDUCATION & CERTIFICATION	ADMINISTRATION	TOTAL
LOCAL BUDGET			
Salaries: 7 Nutritionists 7 Clerks	$93,300	$163,200[1]	$256,500
Travel	10,800	9,200	20,000
Nutr. Ed. Material	500		500
Printing	500	300	800
Telephone		1,800	1,800
Rent: 602 ft.^{2} @ $6.65/ft.^{2}/year		4,000	4,000
Office Supplies		500	500
Repairs		100	100
Postage Meter Rental		200	200
Indirect Cost	5,300	8,900	14,200
TOTAL LOCAL BUDGET	110,400	188,200[1]	298,600
AUTOMATED DATA PROCESSING		54,500	54,500
STATE OFFICE SUPPORT	4,000	11,000	15,000
CERTIFICATION COSTS	8,000[2]		8,000
TOTAL NON-FOOD COSTS	$122,400	$253,700[1]	$376,100

1 Artificially high because it includes some certification costs.
2 Artificially low because it does not include salary dollars of WIC staff.

Table 2

ANALYSIS OF EXPENSES: NORTH CENTRAL FLORIDA WIC PROGRAM (FY'84)

ITEM	TOTAL
Food Dollar	$1,800,000
All Non-food Costs as percent of Food Dollar	21%
Service to Clients as percent of Non-food Dollar	33%
Percent of WIC Dollar Spent in Client Benefits	88%

TESTIMONY OF ROBERT GREENSTEIN

DIRECTOR, CENTER ON BUDGET AND POLICY PRIORITIES

Good afternoon. I am Robert Greenstein, Director of the Center on Budget and Policy Priorities. This afternoon I am here on behalf of both the Center and the National March of Dimes. Since WIC's inception in 1972, the March of Dimes has been committed to the program and has played an important role in expanding WIC in communities across the country.

I welcome the opportunity to appear before the Subcommittee as you consider the first WIC reauthorization in a number of years. The last time this Subcommittee met to consider issues relating to WIC authorizing legislation was in 1978. Since then we have seen a stunning increase in the number of children living in poverty.

A major new Census report issued in late February found that in just three years from 1979 to 1982, the number of children below the age of 6 who live in poverty jumped by 41%. There were 1.5 million more poor children under age 6 in 1982 than in 1979.

Even more striking, the Census data show that if alternative definitions of poverty are used and non-cash benefits are counted, the number of poor children under age 6 jumped by as much as 64% during this three-year period.

The Census results are clear. No matter how we measure poverty, the number of poor children under 6 has grown by large proportions in recent years. In addition, with a continuing trend toward one-parent families and with a continuing drop since 1982 in AFDC payment levels as adjusted for inflation (as documented by the Congressional Research Service), we can expect little dramatic improvement in this picture in coming years despite improvement in the economy.

Moreover, The Children's Defense Fund (CDF) reports that over one-fourth of all children in poverty now have no Medicaid coverage -- an increase since the mid-1970's in the proportion of unserved children. In addition, CDF reports that from 1978 to 1982, there were increases in 26 states in the percentages of women who either failed to receive prenatal

care or did not receive care until late in pregnancy. In some states, first-time pregnant women were dropped from AFDC and Medicaid until the final trimester of pregnancy as a result of a provision of the 1981 Omnibus Budget Recommendation Act.

The increase in poverty and reductions in the scope of some federal health-care programs are matched by disturbing data on the health of young children. A recent study from the Public Health Service in HHS ("Health and Prevention Profile -- United States") shows that 10%-15% of infants of migratory workers and certain rural poor are growth-retarded in relation to dietary deficiencies. The report also shows that one of every eight black infants is born at a low birth weight -- and that this is associated with very high rates of infant mortality among black infants. As is well known, infant mortality rates for the U.S. as a whole remain above those of nearly every other western industrialized country in the world.

Recent studies in Massachusetts and Chicago shed additional light on this situation. The Massachusetts Department of Public Health issued a major scientific study in November on the nutritional status of poor children in that state. The study found that between 10,000 and 17,500 poor children in Massachusetts are stunted, due largely to chronic malnutrition, and that nearly one in every five children surveyed was either stunted, wasted (abnormally underweight) or anemic. The study also reported that many poor children in need of WIC were left out of the program due to the program's funding limitations.

In Chicago, a study at Cook County Hospital found last year that 30% of all children under age 2 coming to the Pediatric Outpatient Clinic had abnormally low growth, and that in half of those "low growth" cases, the children suffered from inadequate nutrition. Cook County Hospital also reported a 24% increase from 1981 to 1983 in admissions of young children for "failure to thrive" and other nutrition-related conditions.

The Need for WIC

These data underscore our need for a strengthened WIC program. In a recent report on WIC, the General Accounting Office stated:

- "We estimate that WIC decreases the proportion of low birthweights for infants born to women eligible for WIC by 16 to 20 percent. WIC's effect on mean birthweights also appears to be positive... WIC mothers appear to experience greater benefits the longer they participate."

The GAO findings that WIC decreases the incidence of low birth weight infants by close to 20% and increases average birth weights by 30-50 grams -- findings supported by the other expert witnesses at hearings before this Committee on March 15 -- are of striking significance. As Dr. David Paige of Johns Hopkins, a noted authority in the field, told the Committee:

> "If there is one anchor to the whole discipline of maternal and child health and something that we think about a great deal, it is the fact of low birth weight infants... two-third to three-fourths of all the mortality in the neonatal period is a function of low birth weight, and it influences disproportionately the infant mortality rate in the U.S.... anything you can do to reduce low birth weight is very significant and important."

Moreover, when Chairman Helms asked the expert panel on March 15 whether the 30-50 gram increase in average birth weight that results from WIC was meaningful, Dr. David Rush of Columbia, who directs USDA's national WIC evaluation, replied forcefully that it could be "very significant," noting that for every 150 gram change in birth weight, the rate of infant survival doubles.

Indeed, Dr. Rush declared that "the WIC program appears to be very successful using the criteria of change in birth weight." Dr. Paige commented that WIC is now the single most effective intervention strategy to combat low birth weight.

The findings of WIC's impact on low birth weight are even more significant when one examines the program's effect on those expectant mothers who participate for more than six months prior to delivery. The 16%-20% reduction in low birth weights cited by GAO includes the impact of WIC on all pregnant women participating in the program, including those participating for just a month or two prior to delivery. In a recent major WIC study conducted by the Missouri Health Department, however, the incidence of low birth weight was <u>reduced more than 50%</u> among babies born to mothers who participated in WIC for more than six months prior to delivery. This extraordinary finding is all the more important since Dr. Rush, has called the Missouri study the soundest WIC evaluation yet

conducted. This suggests that we should be providing more resources in the WIC program in order to enroll more expectant mothers early in their pregnancies.

Before leaving this area, I would like to mention a few other GAO findings. The GAO stated:

- "We conclude tentatively that teenage woman and black woman who participate in WIC have better birth outcomes than comparable women who do not participate in WIC."
- Participating in WIC may mitigate some of the effect of a mother's smoking, demonstratably harmful to infant birth weights."
- "The available evaluative evidence is modest and preliminary but suggests that participating in WIC improves the intake of energy, protein, and some other nutrients for pregnant woman, enhances the iron in their blood, and increases their weight gain."

A final note on this score is that I trust the Subcommittee recognizes the very high standards against which we measure the WIC program. The National School Lunch Program -- an important program -- is evaluated for its success in enhancing children's diets and improving their nutrient intakes. In the WIC program, dietary improvement is only one of many standards against which WIC is measured. Evaluations on WIC go well beyond this standard and examine impacts on such life-and-death matters as low birth weight. I know of no other nutrition program which is held up to such a rigorous set of standards -- or what appears to meet them so well.

Where Do We Go From Here? The Need for Adequate Funding

The evidence points us in several directions when we consider the future of the WIC program. The first key direction is the need for adequate funding.

Today, the WIC program serves 3.0 million women, infants, and children. Yet in 1982 (the latest year for which Census data are available), over 10 million women, infants, and children under five had incomes below the WIC income limits. While there is no national data on precisely how many of these persons met the WIC nutritional risk criteria, WIC program experience shows that most of those who meet the income test also meet the nutritional risk test. This is because the WIC program is, as mandated by Congress, preventive as well as remedial.

In short, only about one-third of those who are eligible for the program are participating in it. Moreover, in some areas of the country, no WIC program exists at all. A nationwide survey of all states, which our Center conducted over the past month, found that approximately 300 counties still have no WIC program at all. In most areas that do have a program, only a fraction of the need can be met, and long waiting lists are common.

Throughout its history, the WIC program has steadily expanded to meet more of the need. From its inception in 1974 to the present day, the program has grown at an annual average rate of 300,000 participants per year. If this moderate rate of growth is maintained over a four-year reauthorization period, then the program would serve nearly half of those eligible by FY 1988. USDA's own National Advisory Council on Maternal, Infant, and Fetal Nutrition officially recommended to Congress in 1982 that the WIC program be expanded to reach half of those eligible by FY 1985.

I would certainly hope that when this Committee reauthorizes the WIC program, it establishes authorization ceilings that make some growth possible so that more of those in need can be reached. This does not have to result in additional cost to the federal government or in any way to enlarge the deficit. WIC is not an entitlement, so that the Appropriations Committee determines the actual spending level for WIC each year. The Appropriations Committee, in turn, must remain within overall spending ceilings established in the budget resolution. If the Appropriations Committee determines that WIC is a particularly valuable program and wishes to enable it to reach more of those who are eligible, then comparable reductions must be made in other appropriated programs in order to stay within the aggregate spending limits.

I believe that this Committee should allow the Appropriations Committee -- and the Congress -- the flexibility to determine whether WIC should be considered a high priority program and should be provided a modestly larger share of overall non-defense spending. If this Committee sets authorization ceilings that do not allow the possibility for any growth in WIC, you will not really have saved money. Rather, you will simply have foreclosed the possibility of shifting funds from a lower

priority area to WIC.

As one possible approach for the Committee to take, I would call your attention to H.R. 4661, which was introduced by Rep. Silvio Conte, the ranking Republican on the House Appropriations Committee. H.R. 4661 would set WIC authorization ceilings at $1.5 billion in FY 1985 and $1.65 billion in FY 1986. This approach is quite modest. If the program were fully funded up to this level, this would allow real growth of just 2% next year. 60,000 additional low income women, infants, and children would be reached in 1985.

Other Legislative Issues

Another issue concerns year-end funding practices. One of the principal problems in WIC today is that states generally are forced to underspend their WIC grants. In the past some states have removed needy participants from the program in August and September and ended up with unspent funds for the fiscal year.

This occurs because it simply is not possible for a state to know its exact WIC expenditure levels for a fiscal year until several months after the fiscal year is over. States do not know in advance the exact retail prices of WIC foods for the last few months of the year, nor do the states know exactly how many WIC vouchers will actually be redeemed. Since many WIC vouchers issued for July, August, and September do not fully work their way through the WIC financial cycle until after September 30, the states do not know their exact expenditure levels for these months until the fiscal year is over. The normal way to handle this is for states to leave some margin in their expenditures so that if unexpected costs appear, they have the funds on account to cover them.

The upshot is that most states end up with unspent funds each year. Moreover, some states have frantically slashed their caseloads in August and September to assure they do not overspend -- and then ended up with a surplus.

I strongly support the proposal of the National WIC Directors' Association to address this problem by allowing states to spend up to 3% of

their grant in a fiscal year. Under this approach, amounts actually spent in excess of 100% of a state's food grant would then be subtracted from the state's grant for the following fiscal year. This would ensure that no additional federal costs resulted from this provision.

Few states would ever really exceed 100% of their grant under such a provision. What would happen is that those states now spending 95% or 97% of their grants would spend closer to 100% and serve more nutritionally-at-risk women and children.

Allowing a very small percentage of a state's WIC grant to effectively be borrowed from the following year's appropriation is a modest step that is very much needed.

Administrative Funds

I would also like to comment on -- and to express my opposition to -- the Administration's proposal to reduce from 20% to 18% the share of WIC funds devoted to nutrition education, nutrition assessments, and general administration. State and local agencies are already squeezed. If the Administration's proposal is accepted, the quality of WIC services will deteriorate to some degree. Less work will be done to locate persons at high degrees of risk who are not participating in the program. Participants may be forced to wait additional days or weeks to be processed for WIC. The quality of nutrition education sessions and materials is also likely to diminish. We are in strong agreement with the National WIC Directors' Association that such a provision would be exceedingly unwise and counterproductive to sound program administration. A prospective proposal from the Chairman to cut funding for nutrition and administrative services even further, to 15%, is also ill-advised.

Other Adverse Proposals

I am also concerned about various proposals that I fear the Chairman may offer and that would have an adverse impact on the program, including:

- Block grants: A proposal to allow states to fold some or all nutrition programs into a block grant (such as was suggested by the President's Task Force on Food Assistance) would have a deleterious impact on WIC. The WIC population -- low income mothers and children -- are weak politically in most states. If WIC and child nutrition programs are merged into a block grant, WIC will have to compete for funds with powerful state education lobbies. The

likely outcome in some states would be a shift in funds from WIC foods for poor women and children to increased subsidies for school lunches in non-poor areas. This makes no sense from either a health or an income maintenance standpoint. Similarly, a proposal to allow states to merge WIC into the maternal and child health (MCH) block grant makes little sense. In WIC, the great bulk of the funds go for food. In MCH, this is not the case -- the funds go into the health care delivery system. A WIC/MCH merger would likely lead to less being spent on nutritional supplementation and more being spent on physicians' fees and services, medical tests, and the like.

- Prohibitions on participation by some poor children: At the recent national WIC Directors meeting, staff to Senator Helms said they were considering a proposal to bar the provision of WIC foods to children receiving day care at centers and homes participating in the Child Care Food Program. Such a proposal would be exceedingly unwise. First, the Child Care Food Program does not cover all meals - children do not go to child care seven days a week, nor do they receive all their meals there during week-days. Some children are in day care only a few hours a day and may receive only five meals a week there. Secondly, the Child Care Food Program does not provide the nutrition education or health care that WIC does. The proper approach is for WIC health professionals to reduce the amount of WIC foods (on a case-by-case basis) given to those children who also participate in the Child Care Food Program. At the Committee's March 15 hearing on WIC, state and local WIC administrators testified that this is exactly what is now done. Wholesale elimination of these children from WIC would be most inappropriate.

NEED FOR FULL INFORMATION ON WIC'S IMPACTS

Last but not least, I would like to urge the Committee to make sure that it has all the data available before it marks up WIC legislation.

FNS has now spent something like $5 million on a national WIC evaluation designed to provide more extensive information on WIC's impacts than other previous studies have provided. Both the GAO and the President's Task Force on Food Assistance have said that the findings of the USDA evaluation could be very important. Yet this Committee is on the verge of considering major legislation to reauthorize WIC without securing the results of what may be the most important WIC research that has yet been conducted.

On March 15, Dr. David Rush, the director of the USDA evaluation, appeared before this Committee. On five separate occasions during his testimony, Dr. Rush stated that he now had key results from the national evaluation but could not reveal them to this Committee until he received USDA approval to do so. I quote directly from Dr. Rush:

> "I had hoped to present some of the preliminary results of the evaluation to you. However, I am unable to do so until I receive Department of Agriculture approval."

Of particular significance were Dr. Rush's comments concerning a critical part of the national evaluation that studies WIC's impacts on infant mortality. Dr. Rush told the Committee that this study is "potentially of profound importance." He stated:

> "For the past decade, we related WIC to pregnancy outcomes in 15 states, in which there were nearly nine million births. The first results of this study have just become available, and they are being submitted to the Food and Nutrition Service. We eagerly await permission to share our findings with you... The basic outcomes of the study are now know to us... and could be available to you at their [the Food and Nutrition Service's] discretion." (emphasis added).

I am deeply concerned that this Committee is about to act without obtaining and considering these important results. I am also troubled that nearly a month has passed since Dr. Rush appeared here and, to the best of my knowledge, the Committee has not followed up and requested the findings of which he spoke.

I cannot understand how the Congress can authorize the expenditure of millions of dollars in research funds on a subject so crucial as WIC's impacts on mortality and then meet to reauthorize the program without securing the research results it has been told are available. It appears that USDA will not provide the research results on its own (which suggests either that the bureaucracy is moving at its usual slow pace in processing this data or that the results show positive results that USDA is in no hurry to release because they do not support the continuing Administration efforts to reduce the program). But this Committee of elected Members of Congress has a responsibility to insist that the results be made available so that they can be duly considered as part of the reauthorization process.

I do not wish to belabor this point, but I do believe that the integrity of the legislative process is at stake here. The national evaluation was conducted in no small part to enable Congress to make more intelligent and informed legislative decisions about WIC. Now that key results are in, it is not responsible for this Committee to legislate without them, whatever the results may show.

Thank you for the opportunity to appear here today.

THE AMERICAN DIETETIC ASSOCIATION,
Chicago, IL, April 20, 1984.

Hon. ROBERT DOLE,
Chairman, Nutrition Subcommittee, Senate Committee on Agriculture, Nutrition, and Forestry, Russell Senate Office Building, Washington, DC.

DEAR SENATOR DOLE: The American Dietetic Association, representing 50,000 nutrition professionals, is in agreement with the Center on Budget and Policy Priorities' April 9, 1984 testimony outlining recommendations for the reauthorization of the WIC program. We endorse the following positions:

1. Set authorization ceilings to allow for continued program growth at the historical average rate of 300,000 participants per year to enable WIC to reach one-half of the eligible poor and at-risk women, infants, and children by 1988.

House proposals for WIC vary—from authorization of funds to support the annual growth rate—a concept advocated by Nutrition Subcommittee Chairman Leon Panetta when he introduced H.R. 5151 (which is cosponsored by a Republican, Rep. James M. Jeffords) on March 15—to the Republican-sponsored H.R. 4661 (Conte), which would add just 60,000 to the WIC rolls next year. A middle-of-the-road approach is to fund the program at the levels passed by the House Committee on Education and Labor in H.R. 7 (Perkins), which would allow the WIC program to grow by 150,000 per year.

We urge you and your distinguished colleagues on the Nutrition Subcommittee to cosponsor companion legislation in the Senate so that the WIC program reauthorization can be expedited and program continuity can be assured.

2. Relieve an administrative burden for states by allowing each state to use up to 3% of its WIC food grant for a given fiscal year to cover costs for WIC foods incurred by the state in the prior fiscal year.

This proposal would have the positive effect of allowing the program to support more participants than is possible under the current system, in which states cut back toward the end of the year for fear of overspending their grants. Program management would improve and unspent funds would not need to be carried over from year to year. Few states would spend over 100% of their grant because any overage would be deducted from the following year's grant.

3. Retain the 20% share for the mislabeled WIC "administrative costs," which actually include the costs of nutrition services such as nutrition education, nutrition assessment, certification, monitoring, and evaluation. Change the term "administrative costs" to "costs for nutrition services and administration."

One-sixth of these funds must be spent on nutrition education, which includes the cost of direct counseling, materials, staff training, planning, monitoring, and evaluating the effectiveness of the nutrition intervention. Nutrition education of pregnant women can be extremely effective. A recent evaluation of a prenatal health program conducted in an HMO showed that two 45-minute nutrition counseling sessions provided by a registered dietitian resulted in dietary behavior changes that were statistically significant at the .001 level. The experimental group significantly increased their intake of dairy products and vegetables, and had fewer low-birthweight infants than the control group. The prenatal program yielded an overall benefit-cost ratio of at least 2:1 (1).

The cost of nutrition assessment and certification includes lab fees, expendable medical supplies, required medical equipment (e.g., calipers, scales), and staff time. Administrative funds are also spent for participant transportation in rural areas, interpreters for non-English-speaking participants, fair hearings, administering the food delivery system, and program monitoring (2).

From the above list of what really constitutes "administrative" costs, it is easy to see that most of this money is spent for services to participants. This is a unique and easily misunderstood feature of WIC, and we would like you to help us educate your colleagues so they will understand that retaining the 20% provision is essential.

4. Request that USDA release to the Congress all available draft or preliminary results from the National WIC Evaluation, so that a multiyear or permanent reauthorization can be effected based on conclusive evidence of the value of the WIC program.

In his testimony before the Senate Agriculture Committee on March 15, Dr. David Rush, principal investigator, indicated that two of the four substudies conducted as components of this national evaluation were complete, and that preliminary reports had been submitted to the Food and Nutrition Service. One studied 2,000 preschool children's diet, weight, height, health care utilization, and psychological functions; the other related WIC to pregnancy outcome in 15 States in which there were close to 9 million births. Dr. Rush indicated that the other studies—one on changes in

pregnant women and an economic analysis of the effects of WIC—were still in process at that time.

Surely, the members of Congress could find enough support for reauthorization of WIC from a review of the data linking WIC participation to positive pregnancy outcomes. As Dr. Rush said, "The basic outcomes of the study are now known to us . . . and could be available to you at (USDA's) discretion. . . . We were much relieved, even delighted, at the initial results" (3).

Since the GAO analysis of WIC evaluations (4) remains open to interpretation, why not request that USDA release the data from this more definitive, national study?

5. Continue WIC as a categorical grant program (5) and maintain the current priority system for program participation.

Because our comments mirror those made by organizations such as the American Academy of Pediatrics, the March of Dimes, and the National Association of WIC Directors, we would appreciate it if you would consider including this letter as part of the record of the April 9 hearing.

We are grateful for your continued efforts to preserve worthwhile nutrition programs while making difficult budget decisions. Please contact us if our members can provide additional support for or technical assistance on WIC program issues.

Sincerely,

MARILYN B. HASCHKE, R.D.,
President.

KAREN A. LECHOWICH, R.D.,
Interim Executive Director.

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(3) Rush, D.: Statement of David Rush, M.D., Professor of Pediatrics, and of Obstetrics and Gynecology, Albert Einstein College of Medicine, Bronx, New York, and Principal Investigator, National Evaluation of the Special Supplemental Food Program for Women, Infants, and Children (The WIC Program). Testimony before the Senate Committee on Agriculture, Nutrition, and Forestry. Evaluating the Special Supplemental Food Program for Women, Infants, and Children (WIC), March 15, 1984.

(4) U.S. General Accounting Office: Report to the Committee on Agriculture, Nutrition, and Forestry, United States Senate. WIC Evaluations Provide Some Favorable But No Conclusive Evidence on the Effects Expected for the Special Supplemental Program for Women, Infants, and Children. GAO/PEMD-84-4. Gaithersburg, MD: GAO, January 30, 1984.

(5) ADA supports maintenance of WIC as categorical grant program. J. Am. Diet. A. 80: 472 (May), 1982.

APRIL 5, 1984.

Hon. ROBERT DOLE,
U.S. Senate,
Washington, DC.

DEAR SENATOR DOLE: The W.I.C. program is an important component in improving the outcome of pregnancy for those women who either do not have the appropriate financial resources to meet nutritional needs and/or the nutrition information to assist them in optimal food selection for pregnancy.

In my professional experiences, I have been impressed with the continued need for continuing both the financial and nutritional support for these women. I have had the opportunity to counsel expectant mothers who have participated in the W.I.C. program. The need to continue the nutrition education component of this program is emphasized after working with these women.

In many instances, due to the education received as a result of the W.I.C. program, the results would not have been as positive. Hopefully, by experiencing the W.I.C. nutrition education and food supplement programs, these women will be benefited in possible future pregnancies.

The bonus to this program is, by improving the outcome of pregnancy, we will decrease health care costs through giving infants a healthier beginning in life.

Thank you for your support and consideration of this very important health care issue.

Respectfully Submitted,

MARSEE BATES, M.S., R.D.

[The Congressional Research Service of the Library of Congress completed a review of the cost-benefit analysis used in one study which frequently has been cited in Committee and Subcommittee testimony. That review is printed below.]

CONGRESSIONAL RESEARCH SERVICE,
THE LIBRARY OF CONGRESS,
Washington, DC, December 16, 1983.

To: Senate Committee on Agriculture, Nutrition, and Forestry; Attention: Thomas Boney

From: Ken Cahill, Specialist in Social Legislation and Rich Rimkunas, Analyst in Social Legislation, Education and Public Welfare Division

Subject: Review of a Cost-Benefit Analysis of the WIC Program

In response to your request, this memorandum is a critique of the methodology used in a study by Eileen T. Kennedy, James E. Austin, and C. Peter Timmer that assessed the cost-benefit and cost-effectiveness of the Special Supplemental Food Program for Women, Infants and Children (WIC). The study, entitled "Cost/Benefit and Cost/Effectiveness of WIC," was prepared for the Food and Nutrition Service of the Department of Agriculture and was also a portion of Kennedy's doctoral dissertation. We have reviewed both the study and supplemental information contained in Kennedy's dissertation. At your request, this memorandum focuses on the study's cost-benefit analysis. It does not review that portion of the research that assessed the cost-effectiveness of the WIC program.

INTRODUCTION AND SUMMARY

The authors of the report find the WIC program cost-beneficial; the costs of providing dietary supplements to pregnant women are less than the program benefits, as measured by the authors. The primary goal of the prenatal WIC program is to improve pregnancy outcomes and particularly the health of newborns. The authors base their analysis on measurement of low birth weight in infants, which is often used as a measure of health problems in newborns. Typically, low birth weight babies require intensive neo-natal hospital care. The lower the birth weight, the more hospital care is needed. Thus, to the extent that the WIC program reduces the incidence of low birth weight, or increases the average weight among low birth weight babies, costs associated with intensive neo-natal care are averted. Kennedy et al. find that the WIC program does reduce the incidence of low birth weight, and that the averted hospital costs exceed the costs of the WIC program.

The authors findings are based on an analysis of the records of pregnant women in 9 health facilities in Massachusetts between 1973 and 1978. Ideally, the WIC program's effect would be measured using an experiment in which women were randomly assigned to either participate or not participate in the program. Then the differences in birth weight between the two groups attributable to WIC could be accurately measured. As with most social programs, this approach was not possible for the authors; since WIC program benefits are need-related, ignoring the need either by denying program benefits or not suggesting alternative treatment could be unethical. Given this constraint, the authors reviewed the medical and nutritional records of three groups of women, and used a statistical model to control for the problems caused by nonrandom assignment. The three groups of women were: women who participated in the WIC program, women who applied for the WIC program but did not participate in it, and women who used health facilities not served by the WIC program. Depending on which groups of women were compared, the ratios of the averted hospital costs to the cost of the WIC program varied from 3.1 to 1 down to 1.1 to 1.

The authors followed a reasonable approach to their research, and generally followed accepted methodological practices. The research is constrained, however, by limitations often beyond the authors' control. These limitations include insufficient data on the women under study, inability to develop a model that explains most of the variation in low birth weight, a lack of comprehensive previous research on hos-

pital costs and length of hospital stay for low birthweight babies, lack of geographic variability, and loss of a significant portion of the women from the study due to data problems.

There are several implications of the research methodology and its limitations. First this analysis does provide some evidence that the WIC program is cost beneficial if benefits are measured as averted hospital costs due to a reduction in low birth weight caused by WIC dietary supplements. This evidence should however, be considered neither conclusive nor generalizable to the program's benefits nationwide. Since the study was confined to the State of Massachusetts, it would be inappropriate to infer that the WIC program would have the same effects nationwide. Finally, the study does not support one specific cost-benefit ratio for the WIC program, even in Massachusetts. The authors do not make such claims in their analysis.

The limitations noted above and which are discussed in more detail later in this memorandum, result in a considerable instability in the cost-benefit ratios. One comparison of different groups of women leads to a $3.10 benefit for every $1 spent on WIC, which is over 170 percent more cost beneficial than the $1.10 benefit for every $1 spent on WIC that resulted from a comparison of different groups of women.

The results present in "Cost/Benefit and Cost Effectiveness of WIC" should be interpreted as showing a consistent, but unstable, pattern of favorable cost-benefits for the WIC program in both a specific geographical region and time period.

The remainder of this memorandum presents more detail on the Kennedy et al. research methodology and our comments on that methodology. We have attempted to keep our discussion readable by those without a background in quantitative analysis.

DESCRIPTION OF STUDY

Data collection

Kennedy, Austin, and Timmer collected medical and nutritional data for 1,328 women in 9 health facilities serving low income women in Massachusetts. Six of the 9 facilities offered WIC services (WIC sites). The information collected covered the period from January 1973 to February 1973. The medical and nutritional records did not provide the authors with complete information on all women. For example, information on weight gain of the mother during pregnancy only was available for 956 cases, or 72 percent of the sample. The cost-benefit analysis was limited to those women who had complete medical and nutritional information, and who had live births.[1]

The records of the women used in the cost-benefit analysis were a census of women in 3 groups: [2] women who participated in WIC; women who applied for WIC but did not participate in WIC during pregnancy; and women who did not use WIC health facilities. The authors used the three groups to compare the impact of the WIC dietary supplements upon the women and their newborn infants. Specifically, the birth weight of infants who had mothers who participated in WIC was compared to that of the other groups who did not receive WIC food vouchers.

Estimates of low birth weight

According to the medical records, 6 percent of the women who participated in WIC had infants with a birth weight of 2,500 grams (5.5 pounds) or less. The 2,500 gram birth weight corresponds to the authors definition of low birth weight. Among the women who applied to the WIC program but did not receive prenatal WIC dietary supplements, 10.1 percent of the births were of low birth weight. The combined set of records of all non-WIC women in the sample, those at WIC health facilities as well as those at non-WIC facilities, indicated that 8.8 percent of the births were low birth weight.[3] Based upon actual birth weights, the authors noted that WIC participation does seem to be associated with increased infant birth weight.

However, the authors note that this comparison alone does not allow them to attribute the reduction in the incidence of low birth weight infants solely to WIC participation. Biological and social or economic factors might also be associated with increases in birth weight.

In order to refine their results, and provide statistical controls to allow them to more rigorously assess the effect of the WIC program, the authors use a regression

[1] Thirty of the women in the sample had miscarriages or stillborn births.
[2] Except for the exclusion of women for the reasons noted above.
[3] The study does not provide separate statistics for those women at non-WIC health facilities.

model. The regression model attempts to explain differences in low birth weight due to WIC participation, while controlling for other factors that also may effect birth weight. Based upon the results of this statistical technique, the study indicates that, of the original 54 biological, social and economic factors tested, only 4 biological variables, as well as participation in WIC had a statistically significiant influence upon birth weight. the important biological factors were: the mother's pre-pregnancy weight, the amount of weight gained during pregnancy, the gestational age of the infant, and the number of prior low birth weight children born to the women. This statistical estimation technique explained about 38 percent of the actual differences in birth weight among the women. The regression model was then used to predict the birth weight of infants of WIC and non-WIC mothers, controlling for other non-program related factors.

Predicted birth weights, based upon the regression analysis, were divided into five categories: infants of normal birth weight (2,500 grams or more); 2,500–2,001 gram infants; 2,000–1,500 gram infants; 1,500–1,001 gram infants; and infants of 1000 grams or less. The predicted birth weights for WIC participants were then compared to 2 groups, all the mothers who did not receive WIC benefits, and those mothers who applied for WIC , but did not receive dietary supplements during pregnancy.[4]

Using the predicted birth weights, the WIC participants were found to have the lowest incidence of low birth weight infants—3.4 percent. Women who applied to WIC, but did not participate in WIC, had a 14.6 percent incidence of low birth weight infants. The total non-WIC groups had a 9.4 percent incidence of low birth weight infants.

In addition to having fewer low birth weight infants, WIC participants were found less likely to have low birth weight infants in the weight categories below 2,000 grams (4.4 pounds). Only 1.3 percent of WIC participants were in these categories compared to 4 percent for non-WIC participants at WIC sites, and 2.9 percent for the combined non-WIC group. This distribution is important because the estimated hospital costs used in the study are substantially higher for these lower birth weight categories.

Cost-benefit analysis

The estimates of low birth weights were used in the cost-benefit analysis. Since neonatal intensive care is more costly than normal neonatal care, the authors measured the benefit of the WIC dietary supplements as the reduced hospital costs associated with increased birth weight.

Since the authors were concerned about the comparability of the 3 groups of women, they calculated separate cost-benefit ratios, using the same hospital and program cost factors. These cost-benefit ratios were based upon 3 components: the predicted incidence of low birth weight infants; estimated WIC program costs, and estimated hospital costs of low birth weight infants.

Estimates of WIC program costs were based upon Fiscal year 1977 program spending in Massachusetts. Program costs totalled $64,566 for the 627 WIC participants. To determine program costs the authors used the size of the WIC group, the average cost and number of WIC dietary vouchers, and an administrative cost factor. They valued the average food vouchers at $21.07, and the administrative cost was 20.47 percent of the voucher value or $4.31.

The hospital cost components of the ratio were based upon separate studies of hospital in-treatment costs of low birth weight infants and estimated length stay studies of premature infants.[5] Pomerance et al. reported daily hospital charges for low birth weight infants born between January 1973 and June 1975, in Los Angeles and Jonsen and Garland reported the length of hospital stays for premature infants in San Francisco during 1973.

Based upon these studies, estimated hospital costs varied with the weight of the infant. The daily hospital charge of $450 was multiplied by varying numbers of days in care. The estimated hospital costs were: $39,285 for infants weighing 1,000 grams or less, $20,070 for infants weighing between 1,001 and 1,500 grams, $10,035 for infants weighing between 1,501 and 2,000 grams, and $5,017 for infants weighing between 2,001 and 2,500 grams. No hospital costs were included for normal weight infants. Hospital costs were in 1976 dollars.

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[4] The predicted birth weights were consistent with the actual birth weight recorded for the women.

[5] Promerance, J. J., C. T. Ukrainski, T. Ukra, D. H. Henderson, A. H. Nash and J. L. Meridith. Cost of Living for Infants Weighting 1,000 Grams or Less at Birth. *Pedatrics* 61:908 and Jonsen, A. R. and M. J. Garland, eds. *Ethics of Newborn Intensive Care.* A joint publication of Health Policy Program, University of California at San Francisco and the Institute of Governmental Studies, University of California at Santa Barbara, 1976. p. 82.

The calculation of the costs of each group of women was straightforward. First, Kennedy et al. multiplied the number of low birth weight infants in each weight category by the appropriate hospital cost. Then, for the WIC group, they added WIC program costs. Finally, they compared the hospital cost of each non-WIC group to the combined hospital and program costs of the WIC group.

The study reported hospital costs for the WIC infants of $165,577. Combined with the estimated WIC program costs of $64,566 the total costs for WIC infants were $230,143. Assuming the same number of births as the WIC group, the estimated hospital costs for women who applied to the WIC program but did not receive a dietary supplement during pregnancy was $715,914, or 3.1 times the WIC group costs. For the combined non-WIC group (i.e., those women not receiving supplements but at the WIC facilities and those women at non-WIC facilities) hospital costs were $442,954 or 1.9 times the WIC group costs.

In another test to control for the differences between the comparison groups the authors estimated the incidence of low birth weight infants among WIC mothers, if they had not participated in the program.[6] The use of a different regression model and a smaller sample of women resulted in a higher predicted incidence of flow birth weight infants for WIC participants than in the earlier analysis. With WIC, they estimated the incidence of low birth weight to be 8.9 percent. Without WIC, they estimated the incidence of low birth weight would have increased to 11.3 percent. Using the same cost methods as above, the cost-benefit ratio for this comparison was 1.1 to 1.

COMMENTS ON STUDY METHODOLOGY

The following sections contain our comments on the four principal elements of Kennedy, Austin and Timer's cost-benefit analysis of the WIC program. Those elements are the data, the impact of the WIC program on birth weight, the average per day hospital costs of neonatal intensive care, and the length of hospital stay for infants of various birth weights. We consider the data used in the analysis and the author's estimate of WIC's effect on birth weight to be the most important elements in the study.

There are two levels at which a review of the quantitative methods used in research may be conducted. At the first level, the appropriateness of a method, the quality of the data, the rigor with which methods are applied at each step in the research, and the correctness of inferences drawn from the research are assessed. The second level is much more technical and detailed. For example, at each step have all of the calculations been performed accurately; have all of the proper error tests been made; can research results be replicated by others using the same data? We have limited ourselves to the first level of review, since we felt that this level of review provides information on the study adequate to assess its relevance for public policy. Because we did not do the more detailed technical review, it is possible that numerical errors exist in the report. However, we have no evidence that this is the case, and every reason to expect that the authors met professional standards of accuracy.

Data collection

In the limited number of health facilities studied, the authors collected data on all of the women who met the study's criteria (not just a sample of women). Therefore, at least for the analysis of these health facilities, the study was strengthened to the extent that errors that can occur in statistical sampling were not present. In addition, the WIC and health facility records used as the primary data source appear to have provided the authors with a good range of accurate information.

The data are limited in several ways that affect the scope and reliability of the research. The women analyzed were not representative of all pregnant women eligible for the WIC program. The study was limited to the State of Massachusetts. Differences between Massachusetts and other States on social, economic and health factors that could affect pregnancy outcomes mean that it would be improper to infer that WIC program effects found in Massachusetts would also be found nationwide. Second, because the health facilities used in the study were not randomly selected they cannot be considered representative of all health facilities in Massachusetts. These comments do not mean that the program effects found in the 9 sites studied

[6] To do this the authors used a slightly different regression model. This model did not include the infant's gestational age as a factor, and was estimated using only the women at the WIC facilities.

would not be found in other areas. Rather there is insufficient evidence to say what the program effects would occur outside of the 9 sites.

A second problem with the data is that 28 percent of the women in the 9 sites were dropped from the study because their records lacked complete information. To the extent that these women differed from the women who were included in the analysis in some significant way, the research results would be biased. Normally, if information on the excluded group is available, researchers make comparisons to get some indication of the likelihood and direction of any bias in the results. As far as we could determine, Kennedy et al. did not perform analysis of this type. Given the size of the excluded group, the research results may have been biased; but the extent of any bias, and whether the WIC program's benefit was over or under estimated is unknown.

The time period covered by the data also limits the study. The data were from 1973 to 1978. Advances in prenatal care have been made since that time. The interactions between these advances and WIC services could alter the overall effect of the WIC program. For example, better knowledge of the dietary needs of pregnant women could lead to more effective prenatal counselling of WIC participants and non-WIC women. The direction of any change in WIC effectiveness due to improved prenatal care is, however, uncertain.

Incidence of low birth weight

The most important factor in the cost-benefit ratios was the difference in the estimates of the incidence of low birth weight infants for each group. The other factors in the cost estimates were the same for all groups, except that the WIC group had added program costs. The three cost estimates vary because the predicted incidence and distribution of low birth weight infants varies among each of the groups of women. As a result, the degree of confidence which can be placed upon the cost estimates rests primarily on the method used by the authors to estimate birth weights.

The authors employ appropriate methods to predict the incidence of low birth weight. The predicted weights for infants in each group are consistent with the actual incidences. In addition, the research suggests that the use of WIC vouchers does increase birth weight. However, the limits of their methods should be noted.

Statistical controls and the predicted incidence of birth weight

The authors use a regression model to control for other factors affecting birth weight. A complete regression model would allow the authors to isolate the effect of WIC vouchers. While the use of the regression model does account for the effect, on birth weights, of some biological and nutritional factors not associated with WIC participation, a majority of the variation in birth weight (62 percent) is left unexplained. Other factors, such as participation in other nutrition or medical programs, which are not included in the regression model may have had an influence on the incidence of low birth weight. It is difficult to determine how this affects the birth weight predictions and related cost estimates.

The failure of the regression model to account for other potentially important factors affecting birth weight is the likely reason that the cost-benefit ratios are so unstable. The reported cost-benefit ratios range from 3.1 to 1 down to 1.1 to 1, a difference of over 170 percent. Theoretically, if their model was complete (i.e., included all factors affecting birth weight), the cost-benefit ratios for each comparison group of women should be about the same. Absent the complete model, the specific cost-benefit ratio is unknown.

Further evidence of the instability of the results can be seen in an unreported cost comparison: women in the WIC program with women at non-WIC health sites. Based upon a summary table in the report, we calculated that the non-WIC participants at such sites would have had a predicted incidence of low birth weight infants of 4.5 percent. This is comparable to the 3.4 percent low birth weight incidence for WIC participants. Using the study's hospital cost factors, the non-WIC participants would have had associated hospital costs of $205,650. The combined WIC program and hospital costs, using the author's cost factors, was $230,134. This translates to a .9/1 cost-benefit ratio. This does not necessarily mean that the WIC program is not cost-beneficial. It does, however, reemphasize the instability of the findings (4 different cost-benefit ratios) and suggests that factors other than WIC participation and the biological variables used in the regression model play a role in determining the incidence of low birth weight infants.

Hospital costs

Total hospital costs used in the cost-benefit ratios are determined by multiplying the predicted incidence of low birth weight infants by a daily hospital charge; and a length of hospital stay for each low birth weight category. The hospital charge and

length of stay cost factors were not based upon the medical records of the study participants. Rather, Kennedy et al. used estimates from other studies. Overall, differences between actual and estimated hospital costs would have a relatively small impact upon the cost-benefit ratios, when compared to the effect of the previously discussed instability in the estimates of low birth weight. The following sections discuss the limitations of the hospital cost estimates and their implications for the cost-benefit analysis.

Daily hospital charges

Because actual daily hospital charge information was not collected in this study, the authors calculate total hospital charges using estimates from a separate study on the subject. The study was of hospital charges for low birth weight infants born in a Los Angeles hospital between January 1973 and June 1975 which showed a charge of $450 per day per child. This amount was applied to all weight categories. The hospital charges used could affect the cost-benefit rates if there is substantial geographical differences in hospital charges, or if there are differences in daily hospital charges associated with different weight categories.

The effect of geographical variation in hospital costs on the cost-benefit ratios would depend on whether charges were over or underestimated. The use of hospital charges in excess of those that actually existed would, however, have a modest effect on the cost-benefit ratios reported by Kennedy et al. This is because the same average hospital charge per day is applied to both groups in a comparison. That is, if the authors reduced or increased daily hospital charges, total hospital costs would increase or decrease for both the WIC women and non-WIC women. Decreasing daily hospital charges by 20 percent only would have reduced the cost-benefit ratio by about 3 percent. A 20 percent increase in the daily hospital charge would result in about a 9 percent increase in the ratios. The cost-benefit ratios are influenced much more by the predicted incidence of low birth weight infants.

In addition to this geographic variation daily hospital charges for low birth weight infants are likely to vary with the weight of the infant. As birth weight declines, daily hospital charges are likely to increase. If the authors had incorporated this variability in daily charges, the differences in total hospital costs for each category of birth weight could be even wider than those actually used. Since the non-WIC participants had a higher incidence of infants in the weight categories below 2,000 grams than the WIC participants, and these categories would be assigned a higher daily hospital cost, the non-WIC participant costs would be driven up. On the other hand, the WIC participant hospital costs would be smaller because of their lower incidence of infants in the lowest weight categories. In such a case, the cost-benefit ratios would more strongly favor the WIC program than those reported.

Length of stay

As noted previously, Kennedy, Austin, and Timmer used the results of previous research for their estimates of the length of time spent in hospitals for infants of varying birth weights. We confine ourselves to comments on two areas; how reliable was the original research, and did Kennedy et al. apply this research appropriately.

The original study by Jonsen and Garland,[7] which was used by the authors, was not definitive, and the authors did not claim that it was. The particular Jonsen and Garland estimates of the number of hospital days per infant, which were used by Kennedy et al., were based on only 10 infants with birth weights of under 1,500 grams in 1973. In addition, Jonsen and Garland report a difference of almost 25 percent in the length of hospital stay for low birth weight infants in the same weight classes between 1969 and 1973 (the 2 years studied in their report).

The application of the Jonsen and Garland study to the WIC cost benefit analysis also created problems. For example, Jonsen and Garland report length-of-stay for 2 groups of birth weights, under 1,200 grams and 1,200 to 1,500 grams, while the WIC study looked at 4 groups of birth weights, under 1,000 grams, 1,000–1,500 grams, 1,500–2,000 grams, and 2,000–2,500 grams. Thus, Kennedy et al. had to make significant assumptions in order to determine length-of-stay for their study.

Several points should be made about the limited basis of the original length-of-stay research used and about the assumptions made in applying that research to the WIC study. First, very little research was, and is, available on the length of hospital stays of infants of different weights. Hospital records provide the necessary information but they have been neither compiled nor generally made available. Second,

[7] Jonsen, A. R. and M. J. Garland, eds. *Ethics of Newborn Intensive Care.* A joint publication of the Health Policy Program, University of California at San Francisco, and the Institute of Governmental Studies, University of California at Santa Barbara, 1976.

given limited information, the authors make reasonable assumptions about the probable duration of hospital care for low birth weight infants. Finally, some error in the length of hospital stay is less important to the overall cost-benefit analysis than the assessment of the effect of the WIC program on birth weight itself. The intensive care that low birth weight infants must receive is obviously very expensive. If the WIC program significantly reduces the incidence of low birth weight, the program likely will be cost beneficial, even if the average length of stay used in the cost-benefit ratio is not precise. The problems with the length-of-stay estimates do, however, add more uncertainty to the accuracy of the cost-benefit ratios. Taken by themselves, potential errors in the length-of-stay estimates used in the study would not have affected the finding that the WIC program was cost beneficial. Any error would, however, have affected just how cost beneficial the program was found to be.

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